

May 10, 2019

TOWN OF MULGRAVE
457 MACLEOD STREET PO BOX 129
MULGRAVE, NS
BOE 2G0

Dear Municipal Public Drinking Water Supply Owner:

Health Canada has established a new health-based drinking water guideline for manganese.

Manganese is a naturally occurring essential element found widely in air, water, and soil. It is likely to be found in groundwater and surface water throughout Nova Scotia at variable concentrations depending on local rock and soil mineral composition.

Previously, the manganese guidance from Health Canada focused only on aesthetic quality because manganese can affect the taste and colour of the water (e.g. black staining). However, in light of new scientific research on the impacts of manganese exposure, Health Canada has changed its designation of manganese to include a health-based drinking water guideline.

Health-based guideline:

Health Canada has established a Maximum Acceptable Concentration of 0.120 mg/L for manganese in drinking water. As a public drinking water supply owner, you must ensure that your water supply complies with this new health-based guideline.

- No health effects are expected at or below this guideline value for anyone, of any age.
- Exposure to manganese only presents a health concern if ingested. There is no concern with direct contact with water through bathing and showering.
- Current evidence indicates that consumption of manganese in drinking water above the guideline over a prolonged period of time can adversely affect neurologic development in children, and memory, attention and movement in adults.
- Infants under the age of one are especially susceptible to the effects of manganese. The guideline was established to protect the health of a typical Canadian from exposure to manganese from infancy through to adulthood.

Aesthetic objective:

The aesthetic objective recommended by Health Canada has been lowered from 0.050 mg/L to 0.020 mg/L, largely to address complaints of discoloured water at higher values.

Routine monitoring:

With the introduction of a health-based guideline for manganese, enhanced monitoring is required to capture seasonal variation in source water and ensure public health protection. The minimum monitoring requirements are outlined in the table below. **Your annual sampling plan due on or before October 1, 2019 shall include these requirements.** If you can demonstrate manganese is not a parameter of concern for your water supply, you may request a reduction to these sampling requirements.

Source	Sample Location	Frequency
Groundwater	• Raw water (prior to treatment)	Twice per year (spring and fall)
	• Entering the distribution system	Quarterly
	• Distribution system*	Quarterly
Surface Water	• Raw water (prior to treatment)	Quarterly
	• Entering the distribution system	Quarterly
	• Distribution system*	Quarterly

*Sample locations should provide an overall assessment of manganese levels in the distribution system. Examples of suitable locations will depend on system-specific distribution characteristics, as well as water quality. In selecting appropriate sample locations, consideration should be given to the following:

- Proximity to treatment plant
- Evidence of increased biofilm
- Areas with long stagnation or other indicators of poor water quality
- Areas with evidence of increased corrosion
- Event-based sampling following main breaks, hydrant flushing, etc.

If the level of manganese in your supply is more than 0.120 mg/L, you must contact your local Nova Scotia Environment office at **1-877-936-8476** immediately to report the exceedance. You must also prepare a corrective action plan to address the exceedance and submit it to the Department for review and acceptance as per the Guidelines for Monitoring Public Drinking Water Supplies.

More information on the guideline change is available at www.canada.ca/en/health-canada/services/publications/healthy-living/guidelines-canadian-drinking-water-quality-guideline-technical-document-manganese/guidance-document.html

Should you have any questions, please do not hesitate to contact Angelina Polegato at angelina.polegato@novascotia.ca .

Yours Truly,

A handwritten signature in black ink that reads "Mark Farrell". The signature is written in a cursive, slightly slanted style.

Mark Farrell
District Manager
Nova Scotia Environment