

CONSUMER CONFIDENCE REPORT



2016 Drinking Water Report

Moorhead Public Service is issuing the results of monitoring done on its drinking water for the period from January 1 to December 31, 2016. The purpose of this report is to advance consumers' understanding of drinking water and heighten awareness of the need to protect precious water resources.

Source of Water

Moorhead Public Service provides drinking water to its residents from the following groundwater and surface water sources:

- Surface water drawn from the Red River of the North.
- Seven wells, ranging from 114 to 273 feet deep, draw water from the Quaternary Buried Artesian and Quaternary Buried Unconfined aquifers.

The Minnesota Department of Health has made a determination as to how vulnerable our system's source(s) of water may be to future contamination incidents. If you wish to obtain the entire source water assessment regarding your drinking water, please call 651-201-4700 or 800-818-9318 (and press 5) during normal business hours. Also, you can view it on-line at www.health.state.mn.us/divs/eh/water/swp/swa.

Call 218-477-8070 if you have questions about Moorhead Public Service's drinking water or would like information about opportunities for public participation in decisions that may affect the quality of the water.

Results of Monitoring

No contaminants were detected at levels that violated federal drinking water standards. However, some contaminants were detected in trace amounts that were below legal limits. The table that follows shows the contaminants that were detected in trace amounts last year. (Some contaminants are sampled less frequently than once a year; as a result, not all contaminants were sampled for in 2016. If any of these contaminants were detected the last time they were sampled for, they are included in the table along with the date that the detection occurred.)

Abbreviations used in this report:

- **MCLG** –Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **MCL** – Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **MRDL** – Maximum Residual Disinfectant Level.
- **MRDLG** – Maximum Residual Disinfectant Level Goal.

- **AL** – Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirement which a water system must follow.
- **90th Percentile Level** – This is the value obtained after disregarding 10 percent of the samples taken that had the highest levels. (For example, in a situation in which ten samples were taken, the 90th percentile level is determined by disregarding the highest result, which represents 10 percent of the samples.) Note that, in situations in which only five samples are taken, the average of the two with the highest levels is taken to determine the 90th percentile level.
- **ppm** – Parts per million, which can also be expressed as milligrams per liter (mg/l).
- **ppb** – Parts per billion, which can also be expressed as micrograms per liter (µg/l).
- **nd** – No Detection.
- **N/A** – Not Applicable (or does not apply).
- **TT** – Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Contaminant (units)	MCLG	MCL	Level Found		Typical Source of Contaminant
			Range (2016)	Avg/Result ^A	
Bromate (ppb)	0	10	nd-9.0	2.87	By-product of drinking water disinfection.
Fluoride (ppm)	4	4	0.66-0.72	0.76	State of Minnesota requires all municipal water systems to add fluoride to the drinking water to promote strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories.
Haloacetic Acids (HAA5) (ppb)	0	60	1.8-10.0	7.45	By-product of drinking water disinfection.
Nitrate (as Nitrogen) (ppm)	10.4	10.4	N/A	0.11	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
TTHM (Total trihalomethanes) (ppb)	0	80	nd-1.1	1.0	By-product of drinking water disinfection.
Total Coliform Bacteria	0 present	>5% present	N/A	0% ^B	Naturally present in the environment.

Contaminant (units)	MCLG	MCL	C	D	Typical Source of Contaminant
Turbidity (NTU)	N/A	TT	100.0%	0.15 NTU	Soil runoff.

Turbidity is a measure of the clarity of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

^A This the value used to determine compliance with federal standards. It sometimes is the highest value detected and sometimes is an average of all the detected values. If it is an average, it may contain sampling results from the previous year.

^B This value indicates the maximum percentage of samples determined present in a month. In all, 0 of 480 samples collected in 2016 were present for total coliform bacteria.

^C Lowest monthly percentage of samples meeting the turbidity limits.

^D Highest single measurement.

Contaminant (units)	MRDLG	MRDL	E	F	Typical Source of Contaminant
Chlorine (ppm)	4	4	2.0-2.5	2.38	Water additive used to control microbes.

Contaminant	Unit	% Removal Required	% Removal Achieved	# of Quarters out of Compliance	Typical Source of Contaminant
Total Organic Carbon	% Removed	25.0-30.0%	36.7-73.9%	0	Naturally present in the environment.

Contaminant (units)	MCLG	AL	90% Level	# sites over AL	Typical Source of Contaminant
Copper (ppm)	1.3	1.3	0.07	0 out of 30	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead (ppb)	0	15.0	4.9	0 out of 30	Corrosion of household plumbing systems; Erosion of natural deposits.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Moorhead Public Service is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Monitoring may have been done for additional contaminants that do not have MCLs established for them and are not required to be monitored under the Safe Drinking Water Act. Results may be available by calling 651-201-4700 or 800-818-9318 during normal business hours.

Monitoring for unregulated contaminants as required by U.S. Environmental Protection Agency rules (40 CFR 141.40) was conducted in 2016. Results of the unregulated contaminant monitoring are available upon request from Cindy Swanson, Minnesota Department of Health, at 651-201-4656.

^E Highest and lowest monthly average.

^F Highest quarterly average.

Compliance with National Primary Drinking Water Regulations

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- *Radioactive contaminants*, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U. S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791.



Moorhead Public Service
500 Center Avenue, Second Floor, P.O. Box 779
Moorhead, MN 56561-0779
Tel. 218-477-8000 (Option 4)
www.mpsutility.com
www.facebook.com/mpsutility