



# Consume with confidence

*Mankato's water is tested daily and meets and exceeds state and federal standards for high quality water.*

## City of Mankato annual drinking water report



## Mankato's water—clearly the best choice

The city of Mankato is pleased to share its consumer confidence drinking water report. Testing completed by the Minnesota Department of Health confirms that Mankato's drinking water meets and exceeds all state and federal standards for high-quality water, including the Federal Safe Drinking Water Act. These results are a reflection of Mankato's commitment to providing quality water to the community. In addition to water services, water conservation is a top priority. Being efficient, conserving and reducing water usage helps ensure an adequate water supply.

For more information, or printed copies of this report, please contact staff at 311 or 507-387-8600; 507-387-8661 (24-hour service), 507-387-8588 or [water@mankatomn.gov](mailto:water@mankatomn.gov).

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**311 or 507-387-8600**  
**507-387-8661 (24-hour service)**  
**[mankatomn.gov](http://mankatomn.gov)**

## Results of monitoring

The city of Mankato is issuing results of monitoring done on its drinking water from January 1 to December 31, 2015. The purpose of this report is to advance consumer understanding of drinking water and heighten awareness of the need to protect precious water resources.

No contaminants were detected at levels that violated federal drinking water standards. Some contaminants were detected last year in trace amounts below legal limits, as shown in the table. (Some contaminants are sampled less frequently than once a year; as a result, not all contaminants were sampled for in 2015. If any of these contaminants were detected the last time they were sampled for, they are included in the table along with date detection occurred.)

Contaminant (units)	MCLG	MCL	Level Found		Typical source of contaminant
			Range (2015)	Average/result*	
Alpha emitters (pCi/l) (5/15/2014)	0	15.4	N/A	4.4	Erosion of natural deposits.
Arsenic (ppb) (8/27/2014)	0	10	N/A	4.09	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium (ppm) (8/27/2014)	2	2	N/A	.03	Discharge of drilling wastes and from metal refineries; erosion of natural deposits.
Combined radium (pCi/l) (5/15/2014)	0	5.4	N/A	2.5	Erosion of natural deposits.
Fluoride (ppm)	4	4	.65-.89	.91	State of Minnesota requires all municipal water systems to add fluoride to drinking water to promote strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories.
Haloacetic acids (HAAS) (ppb)	0	60	8.7-22.7	18.98	By-product of drinking water disinfection.
Nitrate (as nitrogen) (ppm)	10.4	10.4	nd-3.9	3.9	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
THM (total trihalomethanes) (ppb)	0	80	14.9-71.7	63.05	By-product of drinking water disinfection.

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

Contaminant (units)	MCLG	MCL	**	***	Typical source of contaminant
Turbidity (NTU)	N/A	TT	99%	.044	Soil runoff.

\*\*Lowest monthly percentage of samples meeting the turbidity limits.

\*\*\*Highest single measurement.

Turbidity, a measure of water clarity is monitored because it's a good indicator of the effectiveness of Mankato's filtration system.

Contaminant (units)	MRDLG	MRDL	****	*****	Typical source of contaminant
Chlorine (ppm)	4	4	.8-1.4	1.13	Water additive used to control microbes.

\*\*\*\*Highest and lowest monthly average

\*\*\*\*\*Highest quarterly average.

Contaminant	Unit	% removal required	% removal achieved	# of quarters out of compliance	Typical source of contaminant
Total organic carbon	% removed	N/A	15.4-34.8%	0	Naturally present in the environment.

Contaminant (units)	MCLG	AL	90% Level	# sites over AL	Typical source of contaminant
Copper (ppm) (6/25/2013)	1.3	1.3	.07	0 out of 30	Corrosion of household plumbing systems; erosion of natural deposits.
Lead (ppb) (6/25/2013)	0	15	1.2	0 out of 30	Corrosion of household plumbing systems; erosion of natural deposits.

If present, elevated lead levels 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. City of Mankato is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. As a protective measure to maintain safe drinking water, the city of Mankato continues to add a polyphosphate to control corrosion in the distribution system. When water sits for several hours, the potential for lead exposure can be minimized by flushing tap for 30 seconds to two minutes before using water for drinking or cooking. For concerns about lead in drinking water, an option is to have your water tested. Information about lead in drinking water, testing methods and steps to minimize exposure is available from the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791, or online at [epa.gov/safewater/lead](http://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 1-800-818-9318 during normal business hours.

Monitoring for unregulated contaminants as required by U.S. Environmental Protection Agency rules (40 CFR 141.40) was conducted in 2015. Results of the unregulated contaminant monitoring are available upon request from Cindy Swanson, Minnesota Department of Health, at 651-201-4656.

## Mankato's water source

The city of Mankato provides drinking water to its residents from a groundwater source; five wells ranging from 47 to 848 feet deep, that draw water from the Tunnel City-Mount Simon and Quaternary Water Table aquifers.

The Minnesota Department of Health has made a determination as to how vulnerable our systems' source(s) of water may be to future contamination incidents. To obtain the entire source water assessment regarding Mankato's drinking water, please call 651-201-4700 or 1-800-818-9318 (and press 5) during normal business hours. Also, it can be viewed online at [health.state.mn.us/divs/eh/water/swp/swa](http://health.state.mn.us/divs/eh/water/swp/swa).

For questions about city of Mankato drinking water, or for information about opportunities for public participation in decisions that may affect the quality of the water, call 507-387-8665.

### Key to abbreviations:

**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 MCLGs as feasible using 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 10 samples were taken, the 90th percentile level is determined by disregarding the highest result, which represents 10 percent of the samples.) Note: 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.

**pCi/l**-PicoCuries per liter (a measure of radioactivity).

**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 (does not apply).

**TT**-Treatment technique: A required process intended to reduce the level of a contaminant in drinking water.



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## Compliance with national primary drinking water regulations

Sources of drinking water (tap and bottled) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the land's surface or through the ground, it dissolves naturally-occurring minerals, and, in some cases, radioactive material. It can pick up substances resulting from animals or 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 stormwater 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 stormwater runoff and residential uses.
- ◆ organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.
- ◆ radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

To ensure 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. For more information about contaminants and potential health effects, call the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

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. People with these conditions should seek advice about drinking water from their health care providers. EPA and Center for Disease Control guidelines about appropriate means to lessen risk of infection by cryptosporidium and other microbial contaminants are available from EPA's Safe Drinking Water Hotline at 1-800-426-4791.

## Water conservation

Since water is a valuable resource, it's important to conserve water, by reducing usage. Mankato's lawn conservation program helps efficiently use the area's groundwater resources and ensures an adequate supply for the community.

Watering is limited to every other day from 6 p.m. to 11 a.m. Odd-numbered street addresses may water on odd-numbered days; even-numbered street addresses may water on even-numbered days. Multiple-unit complexes may water based on lowest numbered address (if lowest number is 1, it's an odd-numbered watering day; if it's 2, it's an even-numbered watering day).

Exceptions: new landscaping, sod or seed within 30 days of being installed (\*with a city permit); gardens and flower beds (with a hand-held hose); children's water toys (must be attended when in use); washing vehicles.

*\*New landscaping, sod or seed permits are available online at [mankatomn.gov](http://mankatomn.gov); or call 311 or 507-387-8600.*

## Water saving tips

### Check for leaks

- ◆ Dripping faucets can waste about 2,000 gallons of water each year.
- ◆ Leaking toilets can waste as much as 200 gallons a day. Check toilets for possible leaks by placing food coloring in toilet tank (do not flush).
- ◆ Check drain hoses on automatic water softeners. There is a leak if water runs into the drain while softener is not regenerating.
- ◆ Check the leak detector on a water meter. Make sure all water faucets are turned off. If detector moves, there's a leak.



*A water leak detector.*

### Be efficient with water usage

- ◆ Turning off water while brushing teeth can save 25 gallons a month.
- ◆ Turning off water while shaving can save up to 300 gallons a month.
- ◆ Shortening shower by a minute or two can save up to 150 gallons per month.
- ◆ Setting a kitchen timer when watering lawn or garden can be a reminder to stop because a running hose can discharge up to 10 gallons a minute.
- ◆ Replacing toilets and clothes washers if not water-efficient can conserve water. A 1.6-gallon-per-flush toilet is water-efficient. Generally, toilets purchased after 1992 meet this standard.
- ◆ Using a water-efficient showerhead (generally inexpensive and easy to install) can save up to 750 gallons a month.
- ◆ Running a dishwasher when full can save up to 1,000 gallons a month.
- ◆ Matching water level to load size can save when doing laundry.

Tip for gardeners: spread a layer of organic mulch around plants to retain moisture, which saves water, time and money.

## Translation assistance available

This report contains important information about drinking water. Please call Minnesota State University, Mankato at 507-389-1281 or 507-389-6300 for translation assistance.

Este reporte contiene información importante acerca del agua potable. Si necesita esta información en español, por favor llame a Minnesota State University, Mankato al 507-389-1281 o 507-389-6300 para ayuda en la.

Warbixintani waxay wadataa macluumaad muhiim ah ee la xiriira biyaha aad cabtid. Faldan soo wac telefoonka Minnesota State University, Mankato oo ah 507-389-1281 ama 507-389-6300 hadii turjubaan u baahan tahay.

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# How Mankato's drinking water gets to residents

1.

Mankato wells draw from deep and shallow wells.



2.

Water is pumped from the wells to Mankato's water treatment plant from the treatment and filtration process.



Mankato's water treatment plant, 730 Mound Avenue.



Mankato's ultra-membrane filtration system.



An inside look of one of the filters.

3.

Treated water is pumped to water storage towers and reservoirs.



4.

From the storage towers and reservoirs, water is distributed for use.



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