

As required by the federal Safe Drinking Water Act, the City of Woodbury is issuing the results of monitoring done on its drinking water for the period from Jan. 1 to Dec. 31, 2011. The purpose of this report is to advance consumers' understanding of drinking water and heighten awareness of the need to protect precious water resources.

We are proud to report that no contaminants were detected at levels that violated state and federal drinking water standards.

This web page contains the city's annual water quality report, which includes information on the monitoring done on Woodbury drinking water in 2011. Please review the report and, if you have questions, contact Dan Hansen, utilities superintendent, at (651) 714-3720.

How much water does Woodbury use?

In 2011, residents and businesses in Woodbury used nearly 2.58 billion gallons of water. This works out to an average of about 7 million gallons of water per day (MGD). A typical Woodbury family consumes approximately 25,000 gallons of water each quarter of the year, on average. Water use is lower than the average during the winter months (approximately 4 MGD), and higher in the summer (11 MGD), primarily due to lawn watering. The maximum summer day usage in 2011 was 14 million gallons.

Where does the city get its water?

The City of Woodbury provides safe drinking water to its residents and businesses by pumping water from a groundwater source: the Prairie Du Chien/Jordan aquifers. The city currently has 17 wells ranging from 405 to 540 feet deep. Well No. 18 is currently under construction near the intersection of Valley Creek Road and Settlers Ridge Parkway and will be in use by 2013.

The water provided to customers meets drinking water standards. The city's wells meet all construction standards and do not present a pathway for contamination to readily enter the water supply. However, the Minnesota Department of Health also made a determination as to how vulnerable the source 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 1-800-818-9318 (and press 5) during regular business hours. Also, you can view it online at

www.health.state.mn.us/divs/eh/water/swp/swa.

Call Dan Hansen, utilities superintendent, at (651) 714-3720 if you have questions about the City of Woodbury drinking water or would like information about opportunities for public participation in decisions that may affect the quality of the water. Or, if you prefer, send an email to dhansen@ci.woodbury.mn.us.

Key to abbreviations/terms glossary

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.

AL – Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL – Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the ideal maximums (MCLGs) as feasible using the best available treatment technology.

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.

MRDL – Maximum Residual Disinfectant Level.

MRDLG – Maximum Residual Disinfectant Level Goal.

N/A – Not applicable: Does not apply.

nd – No detection.

pCi/l – PicoCuries per liter: A measure of radioactivity in water.

ppb – Parts per billion: The number of units of the substance, in its pure form, found in every billion units of water. Can also be expressed as micrograms per liter.

ppm – Parts per million: The number of units of the substance, in its pure form, found in every million units of water. Can also be expressed as milligrams per liter.

Substances detected in Woodbury water

No contaminants were detected at levels that violated federal drinking water standards. However, some contaminants were detected in trace amounts that were below the maximum allowed in drinking water. The table that follows shows the contaminants that were detected in trace amounts in 2011. (Some contaminants are sampled less frequently than once a year; as a result, not all contaminants were sampled for in 2011. 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.)

Detected substance (units)	Average amount detected*	Meets standard	Allowed max. (MCL)	Ideal max. (MCLG)	Range detected (2011)	Typical source of contaminant
Alpha Emitters in pCi/l Test date: 11-3-2010	5.5	Yes	15.4	0	N/A	Erosion of natural deposits.
Arsenic in ppb	2.56	Yes	10	0	nd-2.56	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Combined Radium in pCi/l Test date:11-3-2010	1	Yes	5.4	0	N/A	Erosion of natural deposits.
Fluoride in ppm	1.17	Yes	4	4	0.93-1.6	State of Minnesota requires all municipal water systems to add fluoride to the

						drinking water; erosion of natural deposits; discharge from fertilizer and aluminum factories.
Nitrate (as Nitrogen) in ppm	2.3	Yes	10.4	10.4	n.d.-2.3	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
TTHM (Total trihalomethanes) in ppb	10.8	Yes	80	0	N/A	By-product of drinking water disinfection.
Perfluorobutanoic Acid (PFBA)	<p>In 2007, the Minnesota Department of Health (MDH) found low levels of the chemical perfluorobutanoic acid (PFBA) in wells serving the city's water system. The MDH evaluated the toxicity of PFBA and established a health-based value (HBV) for PFBA of 7 parts per billion (ppb). In 2011, the levels found in Woodbury water samples ranged from 0.091 to 0.483, well below the HBV. For more information, see the PFBA article below. Because PFC levels have remained consistent during the last several years of testing, the MDH has determined quarterly testing is no longer necessary. Going forward, MDH will test annually for PFCs.</p>					

*This is 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.

Chlorine Testing

Chlorine is added to protect the system from biological growth or bacteria. Chlorine samples are tested from different areas of the city to verify that the disinfection properties are carried throughout the entire system.

Substance (unit of measure)	Highest quarterly average	Highest and lowest monthly average	Meets standards	Allowed max. (MRDL)	Ideal max. (MRDLG)	Typical source in drinking water
Chlorine in ppm	0.67	0.5-0.8	Yes	4	4	Water additive used to control microbes.

Radon testing

Radon is a radioactive gas that is naturally occurring in some groundwater. It poses a lung cancer risk when gas is released from water into air (as occurs during showering, bathing, or washing dishes or clothes) and a stomach cancer risk when it is ingested. Because radon in indoor air poses a much greater health risk than radon in drinking water, an Alternative Maximum Contaminant Level (AMCL) of 4,000 picoCuries per liter may apply in states that have adopted an Indoor Air Program, which compels citizens, homeowners, schools, and communities to reduce the radon threat from indoor air. For states without such a program, the Maximum Contaminant Level (MCL) of 300 pCi/L may apply. Minnesota plans to adopt an Indoor Air Program once the Radon Rule is finalized by the federal government.

	Amount Detected (average) *	Meets Standard	Range Detected (2009)	Typical Source in Drinking Water
Radon-in pCi/L Test date: 8-11-2009	416	Yes	N.A.	Erosion of natural deposits.

*This is the value used to determine compliance with federal standards.

Copper and Lead

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. The City of Woodbury is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has not been turned on for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two 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 at 1-800-426-4791** or at

www.epa.gov/safewater/lead.

The city tests for lead and copper every three years by collecting water samples from a representative set of households in the city. The chart below shows the results of tests performed during 2011.

Substance (units)	Action Level (AL)	90% Level	# sites over AL	Meets standards	Max. Contaminant Level Goal (MCLG)	Typical source in drinking water
Copper in ppm Test date: August 2011	1.3	0.19	0 out of 30	Yes	1.3	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead in ppm Test date: August 2011	15	4.2	1 out of 30*	Yes	0	Corrosion of household plumbing systems; Erosion of natural deposits.

*Lead was detected at one site out of 30. As explained above, lead in drinking water is primarily from materials and components associated with service lines and home plumbing. 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 at 1-800-426-4791 or at www.epa.gov/safewater/lead.

Other substances

Some contaminants do not have Maximum Contaminant Levels (MCLs) established for them. These “unregulated contaminants” are assessed using state standards known as health risk limits to determine if they pose a threat to human health. If unacceptable levels of an unregulated contaminant are found, the response is the same as if an MCL (the allowed maximum) has been exceeded; the water system must inform its customers and take other corrective actions. In the table that follows are the unregulated contaminants that were detected. **Based on state standards, none of the substances detected pose health risks.**

Substance (units)	Average/result	Meets standard	Range (2011)	Typical source of contaminant
Sodium in ppm	7.75	Yes	4.05-7.75	Erosion of natural deposits.
Sulfate in ppm	31.9	Yes	14.9-31.9	Erosion of natural deposits.

Contaminants and drinking water

The sources of drinking water in the United States (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 that 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 EPA's **Safe Drinking Water Hotline at 1-800-426-4791**.

Water and health

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/Center for Disease Control 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 1-800-426-4791.



American Water Works
Association

The City of Woodbury is a member of the American Water Works Association, an international nonprofit scientific and educational society dedicated to the improvement of drinking water quality and supply. The city also is a member of the American Public Works Association.