



# Drinking water meets state safety standards

One of the most important services provided by the City of Savage is the delivery of drinking water to the community. It's a role the City takes very seriously. In addition to ensuring an adequate supply is always available, City staff carefully and regularly inspects the water to ensure it is of the highest quality.

Over the past several years, new treatment technologies have been implemented to guarantee everyone served by the City has safe drinking water.

Numerous tests were conducted in 2011 in accordance with Minnesota Department of Health and Environmental Protection Agency requirements. Once again, Savage's water meets all state and federal standards. Test results listed on the following pages show that contaminant levels are below the maximum limits allowed.

Presented by:



## Wells, quarry supply Savage with water

The City of Savage provides drinking water to more than 9,000 homes and over 500 businesses. The water is drawn from the ground using six wells located throughout the community. The wells range from 152 to 1,029 feet deep and draw water from the Mt. Simon, Quaternary Buried Artesian, Prairie Du Chien Group and Franconia-Ironton-Galesville aquifers.

Water drawn from the wells is run through one of the City's two treatment plants for purification. It is then stored in a water tower or reservoir for future use.

Savage also distributes water that

originates in and is treated by the City of Burnsville (See page 3). This arrangement allows the City of Savage to meet demands for water without adversely impacting the environment.

The Minnesota Department of Health has determined that these drinking water sources are not particularly susceptible to contamination. 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 normal business hours. Also, you can view it online at:

[www.health.state.mn.us/divs/eh/water/swp/swa](http://www.health.state.mn.us/divs/eh/water/swp/swa).

Call 952-224-3440 if you have questions about the City's drinking water, or if you would like information about opportunities for public participation in decisions that may affect the quality of the water.

## Health considerations

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, and some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. Environmental Protection Agency/Centers 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.

### Inside

- Test results
- Wise water usage
- Substances absorbed by water
- Federal regulations
- Why do I receive this report?
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Contaminant (units)	MCLG	MCL	Level Found		Typical Source of Contaminant	Meets Standard
			Range 2011	Average/Result*		
Alpha Emitters (pCi/l) <i>Test Date: 2/10/10</i>	0	15.4	N/A	4.2	Erosion of natural deposits.	✓
Barium (ppm) <i>Test Date: 7/19/07</i>	2	2	N/A	.2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.	✓
Combined Radium (pCi/l) <i>Test Date: 2/10/10</i>	0	5.4	N/A	3.7	Erosion of natural deposits.	✓
Fluoride (ppm) <i>Test Dates: 1/24/11, 4/20/11, 8/09/11, 11/28/11</i>	4	4	.89-1	1.15	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) <i>Test Date: 7/19/07</i>	0	60	N/A	3.8	By-product of drinking water disinfection.	✓
Mercury (inorganic) (ppb) <i>Test Date: 7/19/07</i>	2	2	N/A	.05	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland.	✓
Nitrate (as Nitrogen) (ppm) <i>Test Date: 4/20/11, 8/9/11</i>	10.4	10.4	nd-.47	.47	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	✓
TTHM (Total trihalomethanes) (ppb) <i>Test Date: 8/30/11</i>	0	80	N/A	16	By-product of drinking water disinfection.	✓

\* 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.

Contaminant (units)	MRDLG	MRDL	Highest/Lowest Monthly Avg.	Highest Quarterly Avg.	Typical Source of Contaminant	Meets Standard
Chlorine (ppm) <i>Tested 30 times each month</i>	4	4	.09 - 1.52	.79	Water additive used to control microbes.	✓

## 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 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 that 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 5 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).

**oocysts/L** - Oocysts/Liter (a measurement of the number of Cryptosporidium (or Giardia) spores).

**ppb** - Parts per billion, which can also be expressed as micrograms per liter (ug/l).

**nd** - No Detection.

**N/A** - Not Applicable (does not apply).

## Tested at the tap

Just as it picks up substances in the ground, water can absorb lead or copper that exists in the plumbing of a home or business. These substances are regulated, and tests are conducted for their presence every three years.

Contaminant (units)	MCLG	AL	90% Level	# Sites Over AL	Typical Source of Contaminant	Meets Standard
Copper (ppm) <i>Test Date: 6/11/10</i>	1.3	1.3	.19	0 out of 31	Corrosion of household plumbing systems; erosion of natural deposits.	✓
Lead (ppb) <i>Test Date: 6/11/10</i>	0	15	2.5	0 out of 31	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. The City of Savage 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>.

## Unregulated substances

Some contaminants do not have the Maximum Contaminant Levels 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 has been exceeded; the water system must inform its customers and take other corrective actions. The table that follows shows the unregulated contaminants that were detected:

Contaminant (units)	Level Found		Typical Source of Contaminant	Meets Standard
	Range 2011	Average/Result		
Sodium (ppm) <i>Test Date: 5/10/10</i>	N/A	16	Erosion of natural deposits.	✓
Sulfate (ppm) <i>Test Date: 5/10/10</i>	N/A	44.7	Erosion of natural deposits.	✓

# Regulated substances

# BURNSVILLE

For Savage tables see page 2

Contaminant (units)	MCLG	MCL	Level Found		Typical Source of Contaminant	Meets Standard
			Range 2011	Average/Result*		
Alpha Emitters (pCi/l) Test Date: 11/02/10	0	15.4	N/A	3.6	Erosion of natural deposits.	✓
Barium (ppm)	2	2	N/A	.17	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.	✓
Combined Radium (pCi/l) Test Date: 11/02/10	0	5.4	N/A	1	Erosion of natural deposits.	✓
Cryptosporidium (oocysts/L)	N/A	N/A	nd-.2	N/A	Human and animal fecal waste.	✓
Fluoride (ppm)	4	4	.83-.98	1.07	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	1-6.5	4.89	By-product of drinking water disinfection.	✓
Nitrate (as Nitrogen) (ppm)	10.4	10.4	N/A	.64	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.	✓
TTHM (Total trihalomethanes) (ppb)	0	80	8.5-24.9	13.13	By-product of drinking water disinfection.	✓
Total Coliform Bacteria	0 present	>5% present	N/A	1% ▲	Naturally present in the environment.	✓

\* 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.

▲ Follow-up sampling showed no contamination present.

Contaminant (units)	MRDLG	MRDL	Highest/Lowest Monthly Avg.	Highest Quarterly Avg.	Typical Source of Contaminant	Meets Standard
Chlorine (ppm)	4	4	.4 - 1.4	1.11	Water additive used to control microbes.	✓



## Tested at the tap

Just as it picks up substances in the ground, water can absorb lead or copper that exists in the plumbing of a home or business. These substances are regulated, and tests are conducted for their presence every three years.

Contaminant (units)	MCLG	AL	90% Level	# Sites Over AL	Typical Source of Contaminant	Meets Standard
Copper (ppm) Test Date: 6/30/09	1.3	1.3	.22	0 out of 30	Corrosion of household plumbing systems; erosion of natural deposits.	✓
Lead (ppb) Test Date: 6/30/09	0	15	6	0 out of 30	Corrosion of household plumbing systems; erosion of natural deposits.	✓

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Contaminant (units)	Level Found		Typical Source of Contaminant	Meets Standard
	Range 2011	Average/Result		
Sodium (ppm) Test Date: 7/06/10	N/A	18.5	Erosion of natural deposits.	✓
Sulfate (ppm) Test Date: 7/06/10	N/A	35.6	Erosion of natural deposits.	✓

The tables on the preceding page relate only to water drawn from wells in Savage. Homes and businesses in Savage also receive water via a pipeline that delivers groundwater collected from a quarry and treated by the City of Burnsville. This water accounts for 72 percent of all water distributed in Savage.

The tables on this page relate to tests conducted on that water and all other water distributed by the City of Burnsville in 2011. In addition to the water from the quarry, the City of Burnsville gets its water from 17 wells that draw from the Jordan, Mt. Simon, Prairie Du Chien-Jordan, and Franconia-Mt. Simon aquifers.



# Restrictions promote wise water use

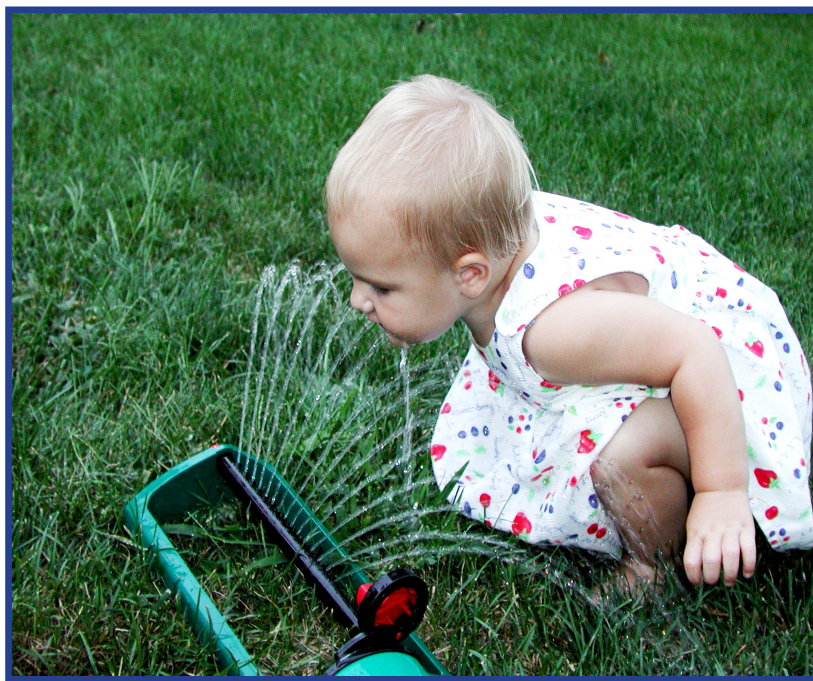
Residents and business owners are reminded that outdoor watering restrictions are in effect throughout the year.

The restrictions are intended to conserve water by encouraging use at the most effective times of the day. Watering the lawn, washing the car, and other uses of water outdoors are not allowed between noon and 5 p.m. any day of the week.

Outdoor watering may occur before noon and after 5 p.m. according to an odd/even schedule determined by address number. Those with even-numbered addresses may water on even dates, while those with odd-numbered addresses may water on odd dates.

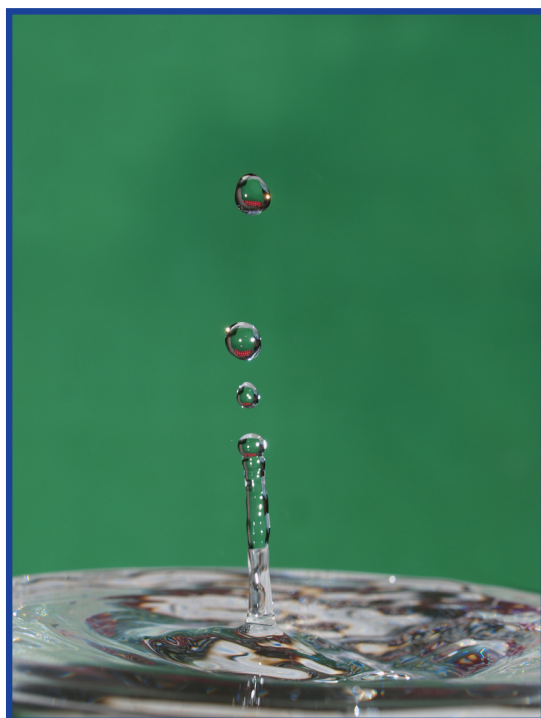
Landscaping, including newly seeded or sodded lawns, may be watered as needed (outside the hours of noon to 5 p.m.) for the first 30 days of installation. Those with private wells are exempt from the City's outdoor watering restrictions.

For more information on the City's water restrictions, utility fees or conservation tips, please visit [cityofsavage.com](http://cityofsavage.com).



## Substances absorbed by water

Prior to being tapped for distribution, the City's drinking water moves through the ground, dissolving natural minerals and, in some cases, radioactive material that is in its path. In addition, the water may absorb substances resulting from the presence of animals or from human activity. As a result, the following substances may be present in the water prior to treatment:



- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- **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 stormwater runoff and septic systems.
- **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.
- **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.

# Federal regulations ensure tap and bottled water are safe to drink

**D**rinking 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.

To ensure 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.

More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.



## Savage's Wellhead Protection Plan

**T**he City of Savage has developed a Wellhead Protection Plan to protect the groundwater aquifers that supply Savage's municipal wells. An aquifer is an underground geologic formation (usually a sand deposit or bedrock layer) that is capable of storing and supplying water to a well.

Water supply wells can become polluted when substances that are harmful to human health infiltrate from the land surface down to the groundwater aquifers. Wells that pump from these aquifers can become unusable when the level of contamination rises above health standards.

The Wellhead Protection Plan identifies sources of contamination that could pollute local groundwater aquifers and enter the community's water supply wells. The ultimate goal of this plan is help ensure that Savage continues to provide its residents with a safe and abundant supply of clean drinking water for generations to come.

Property owners can take the following steps to help wellhead protection planning efforts succeed:

- **Identify possible sources of contamination on your property (wells, tanks, septic systems, hazardous wastes, etc.)**
- **Make sure any potential sources of contamination under your control meet all local, state, and federal regulations.**
- **Use potentially hazardous products only as directed and dispose of them properly when done. Visit the Scott County website for information about waste collection locations and times.**
- **Practice proper turf management and avoid over-fertilization of your lawn.**
- **Seal any unused wells on your property, according to Minnesota Well Code.**
- **Report any spills you observe or discover. Spills as small as 5 gallons of fuel can contaminate millions of gallons of water.**
- **Conserve water whenever possible.**

If you have a question about management of potential contamination sources, or you wish to view a copy of Savage's Wellhead Protection Plan, contact Public Works at 952-224-3400.

## Why do I receive this report each year?

**T**his report is being provided to you in accordance with the Federal Safe Drinking Water Act. Amended by Congress in 1996, the Act includes a provision that requires all community water systems to deliver an annual water quality report to their customers. The goal of this provision, called the Consumer Confidence Report Rule, is to provide

information about drinking water to customers. Specifically, the report aims to advance consumers' understanding of drinking water and heighten awareness of the need to protect water resources.

Information contained in the report covers monitoring that occurred on the system from Jan. 1 to Dec. 31, 2011.