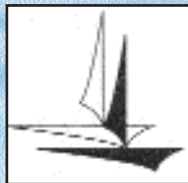


# CITY OF MINNEAPOLIS 2006

## DRINKING WATER



## QUALITY REPORT

Attention. If you want help translating this information, call 612-673-3737.

Atención. Si desea recibir asistencia gratuita para traducir esta información, llama 612-673-2700

Ogow. Haddii aad dooneyso in lagaa kaalmeeyo tarjamadda macluumaadkani oo lacag la' aan wac 612-673-3500

Ceeb toom. Yog koj xav tau kev pab txhais cov xov no rau koj dawb, hu 612-673-2800

ໂປດຊາບ. ຖ້າຫາກທ່ານຕ້ອງການ ການຊ່ວຍເຫຼືອໃນການແປຂໍ້ຄວາມດັ່ງກ່າວນີ້ຟຣີ, ຈົ່ງ ໂທລະສັບ 612-673-5600

Hubbadhu. Yoo akka odeeffannoon kun sii hiikamu gargaarsa tolaa feeta ta'e, lakkoofsi bilbiltu 612-673-5600

Chú Ý. Nếu quý vị cần dịch thông-tin này miễn phí, xin gọi 612-673-5600



## Cleaning and Lining Water Mains

### Project Background

The City of Minneapolis has begun improving water quality by cleaning and lining the city's water mains. This involves scraping the mineral deposits out of the inside of the pipes and installing a liner that prevents future rust. This adds an estimated 50 years to the life of the pipe. The cost of cleaning and lining the water mains is approximately one-fourth of the cost of digging up the pipes and replacing them. The cost will not be assessed to your property.

There are approximately 1,000 miles of water mains in the City of Minneapolis, most of which were constructed 80 to 100 years ago, when pipes were unlined. It is estimated that approximately 800 miles of the system is made of unlined cast iron water mains. Only in the past 40 years have metal water main pipes been factory-produced with a liner.

With time, unlined cast iron water mains build up mineral deposits on the inside, which slows the flow of water and makes the water less pleasing.

At the same time, Minneapolis is in the midst of converting from a conventional sand filtration treatment process to a membrane ultra-filtration process. After the conversion, the City will produce some of the purest mass-produced drinking water. To reduce the mineral deposits on the pipes that distribute this water, the water main cleaning and lining project has been increased from approximately two miles per year to approximately 10 miles per year. A request has been submitted for increased funding next year so that even more water mains can be cleaned and lined then.

Locations for each year's cleaning and lining projects are prioritized by the condition of the water mains and by opportunities to save money by working in areas with other street construction. Cleaning and lining segments are almost never just one block long, since cleaning and lining one pipe will not eliminate water quality issues in the area.

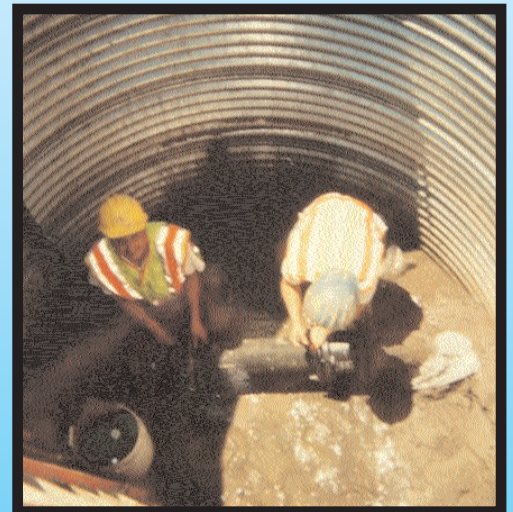
### Water main Cleaning and Lining Project

Since the main has to be empty to perform the work, residences that tap the water mains being cleaned and lined are given a temporary water supply through plastic pipes along the curb lines. Rubber hoses are connected from this pipe to the exterior faucet of each building. Another connection is provided

for lawn sprinkling. The water is sampled throughout the installation process to make sure that it meets or exceeds drinking water standards.

Fire protection is maintained by working on alternating streets and installing fire connections on the hydrants used for temporary water supply.

The City digs holes at intersections along the project area in order to get to the water pipes. Care is taken to allow residents traffic access during the project. All of the holes must be dug up and braced against cave-in before the work can begin, to protect the workers who will be inside them. It is necessary to get the holes prepared well in advance, because the cleaning and lining work is completed much more quickly than the holes are dug. Once all the holes are prepared, a contractor moves onto the jobsite to begin the cleaning and lining work. After the water mains are cleaned and lined, they are disinfected, sampled, the access holes backfilled and the pavement replaced. Water main valves that are past their service life are also replaced during this project.





## 2005 Laboratory Testing Results for Minneapolis Water

Detected Substance	Units of Measure *	MCL**	MCLG**	Level Found	Range Found	How Does it Get Into Drinking Water?
Alpha Emitters (found 4/17/02)	pCi/L	15.4	0	0.4	—	Erosion of natural deposits
Fluoride	ppm	4.0	4.0	1.02	0.99-1.1	Additive that promotes strong teeth, fertilizer and aluminum factory discharge. Erosion of natural deposits
Haloacetic Acids (HAA5)	ppb	60	0	26.97	7.2-55.5	By-product of drinking water disinfection
Nitrate (as Nitrogen)	ppm	10	10	0.24	—	Erosion of natural deposits; fertilizer runoff; leaching from septic tanks, sewage
TTHM (Total trihalomethanes)	ppb	80	0	35.77	ND-69.3	By-product of drinking water disinfection
Total Coliform Bacteria		present in >5% of monthly samples	0 present	1%	—	Naturally present in the environment
Turbidity	NTU	*TT; < 1.0 and < 0.3	—	99% of samples less than 0.3	Highest reading 0.31	Soil runoff
Chlorine	ppm	(MRDL**) 4.0	(MRDLG**) 4.0	2.85	2.1-3.1	Water additive used to control microbes
Copper	ppm	90% of samples must be < 1.3 ppm (AL)	—	90% of samples < 0.26	0 out of 50 samples > 1.3	Corrosion of home plumbing systems, erosion of natural deposits
Lead	ppb	90% of samples must be < 15 ppb (AL)	—	90% of samples < 4.0	0 out of 50 samples > 15.0	Corrosion of home plumbing systems, erosion of natural deposits
Sodium (found 12/01/04)	ppm	No USEPA limit set	—	8.9	—	Erosion of natural deposits
Sulfate (found 12/01/04)	ppm	No USEPA limit set	—	23	—	Erosion of natural deposits

\***ppb**: parts per billion, or micrograms per liter of water    **ppm**: parts per million or milligrams per liter of water  
**pCi/L**: PicoCuries per liter, a measure of radioactivity    **NTU**: Nephelometric Turbidity Units    **ND**: Not Detected  
**\*\*MCL**: Maximum contaminant level, **MCLG**: maximum goal (level for a substance where it has no expected health risks), **MRDL**: Maximum Residual Disinfectant Level, **MRDLG**: Maximum Residual Disinfectant Level Goal

## Source of Water

Before the Minneapolis Water Works can deliver water to your home, it must first be thoroughly tested in certified laboratories that can detect trace amounts of contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. These test results for last year are shown in the table on the next page. Substances that have been found in previous years' testing are also listed in the table, along with the year that they were found.

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. United States Environmental Protection Agency (EPA) regulates substances that are potentially harmful to human health and have at least a reasonable possibility of being found in either water sources or finished drinking water. Our water is monitored for these regulated contaminants. We test for some substances frequently: weekly, quarterly or annually. The levels of some things, however, change little over time, or the chance of finding a detectable amount is expected to be low. These contaminants are monitored less than annually.

Any contaminants found in the water were at levels within federal drinking water standards. The table to the right shows those contaminants that were detected last year. Some contaminants were detected more than a year ago; they are included in the table along with the date that the detection occurred.

Minneapolis water is tested for more than 100 different contaminants. Only those detected are listed in the table. Tested substances fall into one of five different categories:

**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 occur naturally 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 by-products of industrial processes and petroleum production; these can also come from gas stations, urban stormwater runoff and septic systems.

**Radioactive contaminants**, which can occur naturally or result from oil and gas production and mining activities

## Understanding the Laboratory Results

The **Level Found** is either the highest amount found in the water or the average of all samples analyzed, depending on the regulation. If multiple samples were tested in 2005, the lowest and highest detected values are listed under **Range of Detections**. The highest level of a substance allowed in drinking water is the Maximum Contaminant Level (**MCL**), which is set by the EPA. Some contaminants also have an MCL goal (**MCLG**). This is the level of a substance where it has no known or expected health risk. MCLGs allow for a margin of safety. MCLs are set as close to MCLGs as feasible, to allow the maximum margin of safety.

Unregulated substances do not have maximum levels. They are assessed by comparing the detected amount to state standards known as health risk limits. If an unacceptable amount of any substance is ever found in our water, the Minneapolis Water Works will notify residents immediately and take corrective action to eliminate the problem. The MCL for lead and copper is known as the Action Level (**AL**). This is the concentration which, if exceeded, triggers action - treatment or other requirements to get ninety percent of all samples below this concentration.

The Maximum Residual Disinfectant Level (**MRDL**) is the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary to control microbial contaminants. The MRDL Goal (**MRDLG**) is the level of disinfectant where it has no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Turbidity is a measure of water clarity. Certain treatment techniques (**TT**) are required to reduce turbidity and eliminate microorganisms in the drinking water. Regulations require turbidity to be less than 0.3 nephelometric turbidity units (**NTU**) 95 percent of the time and less than 1 NTU 100 percent of the time.

The Minnesota Department of Health has determined that one or more sources of your drinking water is susceptible to contamination. (This does not mean that any of your drinking water is contaminated.) If you wish to obtain the

entire source water assessment regarding your drinking water, please call 651-201-4670 or go online at [www.health.state.mn.us/divs/eh/water/swp/swa/index.htm](http://www.health.state.mn.us/divs/eh/water/swp/swa/index.htm).

If you have questions about City of Minneapolis drinking water or would like information about opportunities for public participation in decisions that may affect the quality of the water, please call 612-661-4999.

## What You Need to Know about Drinking Water Regulations

In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. U.S. 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 (800-426-4791).

## If You Have Special Health Requirements

Some people may be more vulnerable to contaminants in drinking water than the general population. People with weakened immune systems such as people with cancer undergoing chemotherapy, people 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 (CDC) guidelines on appropriate ways to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

## Lead and Drinking Water

Water in the Minneapolis system complies with all regulations concerning lead. You should know that infants and young children are typically more vulnerable than the general population to lead in drinking water. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Flushing your tap for 30 seconds to two minutes before using the water can substantially reduce lead exposure. More information is available from the EPA's Safe Drinking Water Hotline (800-426-4791).