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Delano Municipal Utilities 2005 Drinking Water Report

About This Report

The Delano Municipal Utilities is pleased to issue its Drinking Water Report for 2005. Each year, the Utility issues a report on the source, treatment and quality of the drinking water in Delano. It is intended to help you, the consumer, better understand one of our most precious resources – our drinking water supply. The report includes the results of monitoring done on the drinking water for the period from January 1 to December 31, 2005. We are proud to share this information with our customers.

About Your Water System

The water system in Delano is owned and operated by the Delano Municipal Utilities. The water system includes the water production wells, wellhouses, water tower, and the network of watermains that provide water to all municipal water service connections in Delano.

Delano Municipal Utilities gets its drinking water from three wells located around the City. The wells pump groundwater from the Quaternary Buried Artesian aquifer. This is the layer of material that overlies the sandstone and shale bedrock in the region. The depths of Delano's wells range from 123 feet to 149 feet. The Minnesota Department of Health has determined that these wells are not particularly susceptible to contamination. At the wellhouses, chlorine (for disinfection) and fluoride are added to the water. Polyphosphates are also added to reduce red water complaints resulting from iron and manganese in the water. The water is then pumped through the network of watermains to the water tower and to you, the consumer.

Questions concerning this drinking water report or the water quality in Delano should be directed to the Water Utility General Manager, Hal Becker. He can be reached at the Delano Municipal Utilities office at 763-972-0557.

If you are interested in learning more about the Utilities' operation, or in participating in the decision making process, opportunities are available. The Utility holds monthly meetings on the third Monday of each month at 7 P.M. at Delano City Hall. Call 763-972-0557 for more information.

What Are We Doing To Improve Your Water System?

In 2001, the Utility constructed a new water tower. The new tower stores up to 1.5 million gallons of water and has improved both water pressure and fire-fighting capacity throughout the City of Delano.

The Utility started construction of a water treatment plant in August 2005, for the removal of iron and manganese from the water. The plant will begin operation near the end of June 2006. Softeners will still be needed, since the plant removes the staining components of the water, not the hardness. A fourth production well was drilled in July 2005 and will be brought into service near the end of June 2006. Both the plant and the well are located just north of the High School.

The cost of water system improvements will be reflected in the water user rates and connection fees. Rate adjustments may be necessary in the future to help make these improvements, which are designed to improve water service and water quality in the City.

Water Quality Monitoring

All water systems are required to periodically monitor the quality of the drinking water they produce. **Delano Municipal Utilities is proud to announce no violations of federal drinking standards. Your water is safe.**

We are required to test for a specified list of over 100 contaminants in our water. Out of those, only a few were detected in our water. As the following tables show, **the contaminants that were detected in our water are**

below their legal limits as determined by the Environmental Protection Agency (EPA) and the Minnesota Department of Health. Some contaminants are sampled less frequently than once per year; as a result, not all contaminants were sampled for in 2005. 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.

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 2005. 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.)

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 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 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).

ppb - Parts per billion, which can also be expressed as micrograms per liter ($\mu\text{g}/\text{l}$).

ppm - Parts per million, which can also be expressed as milligrams per liter (mg/l).

nd - No Detection.

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

Contaminant (units)	MCLG	MCL	Level Found		Typical Source, of Contaminant
			Range (2005)	Average /Result*	
Alpha Emitters (pCi/l) (09/10/2002)	0	15.4.	N/A	2.1	Erosion of natural deposits.
Arsenic (ppb) (10/30/2003)	0	50	N/A	5.63	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium (ppm) (10/30/2003)	2	2	N/A	.25	Discharge of drilling wastes; Discharge from metal refineries; <u>Erosion of natural deposits.</u>
Combined Radium (pCi/l) (09/10/2002)	0	5.4	N/A	.17	Erosion of natural deposits.
Fluoride (ppm)	4	4	.99-1.1	1.05	State of Minnesota requires all municipal water system to add fluoride to the drinking water to promote strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories.
Haloacetic Acids (HAAS) (ppb) (08/03/2004)	0	60	N/A	1.6	By-product of drinking water disinfection.
TTHM (Total trihalomethanes) (ppb) (08/03/2004)	0	80	N/A	.1	By-product of drinking water disinfection.

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems. When the treatment plant begins operation, it is anticipated that some of the arsenic will be removed in conjunction with iron and manganese removal.

Contaminant (units)	Level Found		Typical Source of Contaminant
	Range (2005)	Average/Result *	
Radon (pCi/l) (11/06/2002)	N/A	166	Erosion of natural deposits.

* 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.

Radon is a radioactive gas which 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.

Contaminant (units)	MRDLG	MRDL	****	*****	Typical Source of Contaminant
Chlorine (ppm)	4	4	.1-1.89	.5	Water additive used to control microbes.

**** Highest and Lowest Monthly Average.

***** Highest Quarterly Average.

Contaminant (units)	MCLG	AL	90% Level	# sites over AL	Typical Source of Contaminant
Copper (ppm)	N/A	1.3	.53	0 out of 20	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead (ppb)	N/A	15	2	0 out of 20	Corrosion of household plumbing Erosion of natural deposits.

Lead: Infants and young children are typically more vulnerable to lead in drinking water than the general population. The lead levels in your water system were found to be in compliance with drinking water standards; however, 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 and flush your tap for 30 seconds to two minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline at 800-426-4791.

Some contaminants do not have 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. In the table that follows are the unregulated contaminants that were detected:

Contaminant (units)	Level Found		Typical Source of Contaminant
	Range (2005)	Average/Result	
Sodium (ppm) (10/30/2003)	NA	11	Erosion of natural deposits.
Sulfate (ppm) (10/30/2003)	N/A	14	Erosion of natural deposits.

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 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, 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.

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 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 are available from the Safe Drinking Water Hotline at 1-800-426-4791.