Guide to Drinking Water Quality: Duluth Water During 2002

More than 27,000 Duluth homes and businesses depend on the City of Duluth Public Works and Utilities Department for water. The Water Supply Section ensures a safe, reliable, and economical supply by pumping, treating, and distributing about 8 billion gallons of water each year.

Water supplied by the City of Duluth is analyzed for about 90 regulated contaminants and many more unregulated ones. This annual report summarizes laboratory results obtained for Duluth water during 2002. Because annual testing is not required for some of these parameters, data included here is from when the substance was last analyzed, which may have been prior to 2002. The summary of results for Duluth Water:

No contaminants exceeded levels set for safe drinking water
Lead and copper below the limit in all Duluth homes that were checked
No bacteria detected from the 1100 samples checked during 2002
Fluoride levels tested right at the Minnesota Department of Health-specified level of 1.1 ppm

Review this report to find out more information about Duluth water and drinking water in general. If, after reviewing this report, you have questions or want information about opportunities for public participation in decisions that may affect water quality, please contact the Duluth Public Works and Utilities chemist at 218-525-0834**.**

Duluth Drinking Water: Laboratory Results for 2002

The laboratory data in the table below may appear complicated, but use these definitions to find out what the data means for your drinking water.

The **Units of Measurement** depend on the amount of the substance detected and the nature of the testing procedure and measuring device. Units of measure used in the table are:

ppm: parts per million (milligrams per liter)
ppb: parts per billion (micrograms per liter)
NTU: Nephelometric Turbidity Units

The **Level Found** is the highest amount found in the water or the average of all samples analyzed, depending on the regulation for the particular substance. If multiple samples were tested in 2002, 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 EPA. Some contaminants also have Maximum Contaminant Level Goals (**MCLGs**). This is the level of a substance where there is no known or expected health risk. MCLGs allow for a margin of safety. MCLs are set as close to MCLGs as feasible using the best available water treatment processes.

Unregulated substances do not have MCLs. 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 your drinking water, Duluth residents will be notified immediately. Monitoring for unregulated contaminants as required by EPA rules was conducted in 2002. Results of this monitoring are available upon request from Pat McKasy, Minnesota Department of Health, at 651-215-0759.

The MCL for lead and copper is known as the Action Level (AL). This is the concentration which, if exceeded, triggers treatment or other requirement a water system must follow. Ninety percent of all samples tested must be below this concentration. Thirty Duluth homes are sampled every three years for lead and copper; the last time these samples were collected (2001) none tested higher than the Action Level.

During 2002, EPA began regulating disinfectant levels in water systems using a surface water source. 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 for control of microbial contaminants. The MRDL Goal (**MRDLG**) is the level of disinfectant where there is 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 that indicates the effectiveness of the filtration system. Certain treatment techniques (**TT**) are required to reduce the level in the drinking water. Regulations require turbidity to be <0.3 NTU 95% of the time and <1.0 NTU 100% of the time.

Detected Substance	Units of Measure	MCL	MCLG	Amount Found in Duluth Water	Range of Detections	Typical Source in Drinking Water
Fluoride	ppm	4.0	4.0	1.1	0.97-1.3	Additive for dental health, discharge from aluminum and fertilizer factories.
Nitrate (as Nitrogen)	ppm	10.0	10.0	0.34	—	Erosion of natural deposits, fertilizer runoff, leaching from septic tanks, sewage.
Chlorine	ppm	4 (MRDL)	4 (MRDLG)	0.94+	0.82-1.05++	Water additive used to control microbes.
Haloacetic Acids	ppb	60	—	9.13	4.0-13.4	By-product of drinking water disinfection.
Total Trihalomethanes	ppb	80	—	15.74	10.7-16.3	By-product of drinking water disinfection.
Turbidity	NTU	TT	—	100%*	0.10**	Soil runoff.
Lead (8/30/01)	ppb	90% of samples must be <15 ppb	—	90% of samples <10.0	0 out of 30 homes >15 ppb	Corrosion of home plumbing systems, erosion of natural deposits.
Copper (8/30/01)	ppm	90% of samples must be <1.3 ppm	—	90% of samples <0.05	0 out of 30 homes >1.3 ppm	Corrosion of home plumbing systems, erosion of natural deposits.
Sodium (6/25/99)	ppm	No established EPA limits.		7.1	—	Erosion of natural deposits.
Sulfate (6/25/99)	ppm	No established EPA limits.		10.0	—	Erosion of natural deposits.

+Highest quarterly average ++Lowest and highest monthly average * Lowest monthly % of samples meeting limits. **Highest single measurement.

Guide to Drinking Water Quality:
What You Should Know About Your Water

Lake Superior Supplies Duluth With Drinking Water

The source water supply for the City of Duluth is a surface water source: Lake Superior. The City of Duluth has recently worked with the MN Departments of Health (MDH) and Natural Resources to complete a Source Water Assessment of Lake Superior. This document provides basic information about where drinking water comes from and how it may be impacted by potential sources of contamination. Information on source water assessments can be obtained at the MDH website: www.health.state.mn.us/divs/eh/water/swp/swa.

Lake Superior Facts

—Each year, Duluth uses 0.0003% of the water in Lake Superior.

—The first French explorers approaching the lake referred to their discovery as *le lac superieur*. Properly translated, the expression means "Upper Lake," that is, the lake above Lake Huron.

—It takes nearly 200 years for the lake to recharge itself of all its water.

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 human activity.

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 USEPA's Safe Drinking Water Hotline (800-426-4791).

Substances Monitored in Drinking Water

Laboratory testing screens all public water supplies for potential contaminants. These include:

Microbial contaminants, such as viruses and bacteria, which may come from wastewater treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, which can occur naturally or result from 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 occur naturally or result from oil and gas production and mining activities.

Some people may be more vulnerable to contaminants found 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. USEPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants can be obtained by calling the USEPA's Safe Drinking Water Hotline (800-426-4791).

Drinking Water Regulations

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 that must provide the same protection for public health.

Find Out More About Drinking Water

The City of Duluth Public Works and Utilities staff strives to provide safe, quality drinking water and high quality service to residents. We encourage you to contact us and tell us about your water quality and service. We also encourage water customers to learn more about drinking water quality issues. If you have questions or want information about opportunities for public participation in decisions that may affect water quality, please contact the Duluth Public Works and Utilities chemist at 218-525-0834**.** Connect with the resources listed below to find out more.

Contact Information

EPA Safe Drinking Water Hotline	800-426-4791
Minnesota Department of Health	651-215-5800
Minnesota Department of Natural Resources	651-296-6157

Internet Resources

www.comfortsystems.ws
www.epa.gov/safewater
www.dnr.state.mn.us/waters
www.health.state.mn.us/divs/eh/water
www.awwa.org