



ANNUAL WATER QUALITY REPORT

Muskegon County Northside Water System

Serving the Townships of Dalton, Fruitland, Laketon and Muskegon Charter

Muskegon County Department of Public Works Phone (231) 724-6411 FAX (231) 724-6118

SYSTEM OVERVIEW

The Muskegon Water Filtration Plant is a conventional water treatment plant with a capacity of 40 million gallons per day. Customers include not only the City of Muskegon, but also Muskegon Township, North Muskegon, Roosevelt Park and the County Northside system.

Your water comes from Lake Michigan. The state performed an assessment of our source water in 2003 to determine the susceptibility or the relative potential of contamination. The susceptibility rating is on a six-tiered scale from very low to very high based primarily on geologic sensitivity, water chemistry and contaminant sources. The susceptibility of our source water is moderately high.

A copy of our source water assessment plan is available by contacting Steve Teunis, Plant Supervisor at 724-4104

Water Quality Exceeds Mark!

Dear Customer,

This report contains a summary of the quality of the water provided to you during 2011 and details where our water comes from, what it contains, and the risks our water testing and treatment are designed to prevent. Muskegon Water Filtration Plant technicians are committed to providing you with the safest and most reliable water supply. Informed consumers are our best allies in maintaining safe drinking water.

Our state certified lab runs over 8,000 tests a year and include collecting water samples at various stages of the treatment process as well as throughout the distribution system. These samples are analyzed for many different chemical and microbiological parameters. Our sophisticated lab equipment can detect substances at very minute levels. 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 our water poses a health risk.

For more information about contaminants and potential health effects, call the USEPA's Safe Drinking Water Hotline at (800) 426-4791.



Muskegon Water Plant treated over 2.7 billion gallons of water in 2011.

Customer Views

Welcome!

! GET INVOLVED !

Meetings that deal with decisions about our source water are conducted through the Muskegon Conservation District at 773-0008

Consult our Web site at www.shorelinecity.com or Kevin Herbert at 724-4105

For further information, see U.S. Environmental Protection Agency (EPA) water information at www.epa.gov/safewater

Is a water treatment device needed for my home?

The water we deliver to our customers is safe to drink as determined by federal and state drinking water standards. We caution those who choose to use treatment devices in their homes to maintain them in accordance with the manufacturer's recommendations. A poorly maintained treatment system can become a breeding ground for bacteria.

LEAKS

Leaks are expensive! If we suspect a leak in your water service, we will notify you in writing and possibly make a site visit. Please, for your benefit, do not ignore leak notices.

You Can Help!

DON'T POUR petroleum based oils, paints, solvents, weed or bug killers, undiluted industrial strength cleaning products DOWN THE DRAIN.

Take all hazardous chemicals to a hazardous waste collection site for proper disposal. Contact our office for details at 724-6001. Use environmentally friendly shampoos and detergents; (look for low phosphate or phosphate-free products). Use natural gardening techniques to avoid over-use of pesticides and fertilizers which may run off into streams and lakes.

For more information, contact Greg Leverence, Household Hazardous Waste coordinator at 724-6001.

◆ TREATED WATER QUALITY CHART ◆

Listed below are the water quality parameters for the Muskegon County Northside Water System's drinking water during the reporting period of 2011. All parameters shown except lead are BELOW allowed levels. Not listed are the hundreds of other contaminants for which we tested that were NOT detected.

Regulated at the Treatment Plant

SUBSTANCE	HIGHEST LEVEL ALLOWED (EPA's MCL's)	HIGHEST LEVEL DETECTED	IDEAL GOAL (EPA's MCLG's)	SOURCE OF CONTAMINANT	VIOLATION YES / NO
NITRATE	10 PPM	0.5 PPM	0	Erosion of natural deposits	No
TOC	TT	*1.65 PPM	N/A	Naturally present in environment	No
TURBIDITY	TT	0.05 NTU	N/A	Lake Sediment	No
FLUORIDE	4.0 PPM	0.88 PPM	4.0 PPM	Additive	No

*TOC (total organic carbon) is measured quarterly. Because we remove 25% of the TOC from our source water, we are in compliance. Turbidity is a measure of the cloudiness of the water. We monitor turbidity because it is a good indicator of water quality.

Regulated in the Distribution System

SUBSTANCE	HIGHEST LEVEL ALLOWED (EPA's MCL's)	HIGHEST LEVEL DETECTED AS RAA	IDEAL GOAL (EPA's MCLG's)	SOURCE OF CONTAMINANT	VIOLATION YES / NO
MAX. RESIDUAL DISINFECTANT LEVEL	4 PPM (MRDL)	0.67 PPM (RAA)	N/A	Disinfectant (Chlorine)	No
TOTAL TRIHALOMETHANES	80 PPB (AVG)	41.0 PPB (RAA)	N/A	Disinfection Byproduct	No
HALOACETIC ACID	60 PPB	46 PPB (RAA)	N/A	Disinfection Byproduct	No

Detection range: Total Trihalomethanes 12 PPB to 58 PPB, Haloacetic Acid 23 PPB to 46 PPB.
MRDL 0.20 PPM to 1.11 PPM

Unregulated Contaminants

SUBSTANCE	HIGHEST LEVEL ALLOWED (EPA's MCL's)	HIGHEST LEVEL DETECTED	IDEAL GOAL (EPA's MCLG's)	SOURCE OF CONTAMINANT
SODIUM	NOT REGULATED	11 PPM	N/A	Naturally Occurring Mineral

Unregulated contaminants are those for which EPA has not established standards. The purpose of monitoring is to assist the EPA in determining occurrence and whether future regulation is warranted.

Regulated at the Customers' Tap

SUBSTANCE	ACTION LEVEL	MAX. DETECTED	90TH PERCENTILE	MCLG	SOURCE
LEAD	15 PPB (AL)	23.0 PPB	16.0 PPB*	0	Plumbing
COPPER	1300 PPB (AL)	230 PPB	188 PPB	1300 PPB	Plumbing

* One of the 6 sites tested exceeded the action level (AL) for lead. Zero of the 6 sites tested for copper exceeded the action level (AL) for copper. Tested September 2011. The lead exceedance is for the period 1 June 2011 to present.

Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Infants and young children are typically more vulnerable to lead in drinking water than the general population. 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. In this case, the lead exceedance was due to one single bad sample from a business which uses lead and additional sampling has shown lead within acceptable levels at this location. We will continue elevated system monitoring for lead to ensure that the water that you receive at your home or business is safe to drink.

DEFINITIONS

MAXIMUM CONTAMINANT LEVEL (MCL) - 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.

MAXIMUM CONTAMINANT LEVEL GOAL (MCLG) - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. EPA and allow for a margin of safety.

MAXIMUM RESIDUAL DISINFECTANT LEVEL (MRDL) - 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.

MAXIMUM RESIDUAL DISINFECTANT LEVEL GOAL (MRDLG) - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

PPM (mg/l) - One part per million

PPB (µg/l) - One part per billion.

ACTION LEVEL (AL) - The concentration of a contaminant that triggers treatment or other requirement that a water system must follow. Action Levels are reported at the 90th percentile for homes at greatest risk.

NTU - Nephelometric Turbidity Units.

TT - Treatment Technique—a required process intended to reduce the levels of a contaminant

RAA - Running Annual Average

MRDL - The highest level of a disinfectant allowed in drinking water

Sources Of Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, ponds, reservoirs, springs and wells. Our water comes from Lake Michigan. As water travels over the surface of the land and through the ground, it dissolves naturally occurring minerals and in some cases, radioactive material and can pick up substances from the presence of animals or from human activity.

Contaminants which 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 agricultural and residential usage.
- * **Radioactive contaminants**, which are naturally occurring or the result of oil and gas production and mining activities.
- * **Organic chemical contaminants**, including synthetic and volatile organic chemicals which are byproducts of industrial processes and petroleum production and can also come from gas stations, urban runoff and septic systems. In order to ensure that tap water is safe to drink, 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 provide the same protection for public health.

Cryptosporidium

Cryptosporidium is a microscopic organism that, when ingested, can result in diarrhea, fever and other gastrointestinal symptoms. The Muskegon Water Filtration Plant has tested for **Cryptosporidium** in both Lake Michigan and in the water we treat. We have never detected it in our treated water. The organism is present in Lake Michigan and comes from animal wastes in the watershed. Crypto is eliminated by an effective treatment combination including filtration, sedimentation and disinfection.

Water Quality Concerns

Some people may be more vulnerable to contaminants in the 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 persons and infants can be particularly at risk for infections. These people should seek advice about drinking water from their health care providers. Environmental Protection Agency and Centers For Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline at (800) 426-4791.

During the period 1 October 2011 to 31 December 2011, the Northside Water System was required to collect 2 conductivity samples at the “entrance to the water system”. According to the rules, that means the samples should have been taken at the City of Muskegon water treatment plant. We misinterpreted the statement and took 2 conductivity samples at the point where water leaves the City of Muskegon Water System and enters the Muskegon County Northside Water System. Muskegon County was given a violation for this issue as technically we did not have 2 conductivity samples from the correct location. Since that time, additional conductivity samples have been taken at the correct location during the monitoring period 1 January 2012 to 31 March 2012.