

Annual Drinking Water Quality Report

Marinette Water Utility

The Marinette Water Utility is pleased to provide you with the **Annual Water Quality Report for 2008**. We hope this report will help keep you informed about the quality water and services we deliver to you every day. You can expect to receive a similar report prior to June 30th each year. If you have any suggestions as to how we can make these reports more understandable, or if you have any ideas for information you would like to see included, please let me know

Our mission is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process, ensure the quality of your water, and protect our water resources.

We want to assure you that your drinking water is safe and that it meets or exceeds all Federal and State requirements. If you have any questions about this report, or concerning your water utility, please contact Tim Peterson, Water Utilities Superintendent, at (715) 732:5177. We want our valued customers to be informed about their water utility, and involved in decisions concerning their water supply. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the third Monday of each month, at 501 Water Street. Meeting notices and agendas are posted in the Marinette/Menominee EagleHerald, and are also posted at the Water Utility office. Tours of the Water Utility facilities are available for groups or individuals. Please contact me at (715) 732:5177 to arrange a tour. We operate twenty-four hours a day, and can usually accommodate your schedule. Tours of the Wastewater Treatment Facility may also be arranged, although this facility is not manned twenty-four hours per day. Please call Warren Howard, Chief Operator of that facility at (715) 732:5192.

Our water intakes draw surface water from Green Bay, a part of Lake Michigan. We routinely monitor for certain constituents in your drinking water, in compliance with applicable Federal and State laws. The Wisconsin Department of Natural Resources (WDNR) recently completed a *Source Water Assessment* for our water supply. The primary purpose of this assessment is to determine the relative susceptibility of Marinette's source water to contamination. A paper copy of the detailed assessment is available at the Stevenson Public Library, or at the Water Utility billing offices at City Hall. An electronic version is accessible on the WDNR website at <http://www.dnr.state.wi.us/org/water/dwg/swap/surface/marinette.pdf>

The attached table, "Results of Water Quality Analyses" shows some of the results of our monitoring for the period of January 1st 2008 to December 31st, 2008. This table includes only those contaminants we were actually able to detect through our monitoring efforts. If you would like to see a complete listing of all contaminants we monitor, please call, or stop by our office.

Most of the columns on the table are self explanatory, but a couple columns may be confusing. The first column of the table (Ref) is the reference number of the contaminant. This is included simply to make it easier for you to compare reports from year to year. The fourth column (Date of Sample) refers to the date the listed sample was collected. Some of the contaminants are monitored several times per year, some of them even several times a day. For those contaminants we have given you (in the Level Found column) the average value for the year of 2008.

All 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 the 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.

You may find some terms and abbreviations in this report, which you might not be familiar with. To help you better understand these terms we've provided the following definitions:

- *Non-Detects (ND)* - laboratory analysis indicates that the constituent is not present at levels detectable using current technology.
- *Parts per million (ppm) or Milligrams per liter (mg/l)* - one part per million corresponds to one minute in two years or a single penny in \$10,000.
- *Parts per billion (ppb) or Micrograms per liter* - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- *Parts per trillion (ppt) or Nanograms per liter (nanograms/l)* - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.
- *Parts per quadrillion (ppq) or Picograms per liter (picograms/l)* - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.
- *Picocuries per liter (pCi/L)* - picocuries per liter is a measure of the radioactivity in water.
- *Millirems per year (mrem/yr)* - measure of radiation absorbed by the body.
- *Million Fibers per Liter (MFL)* - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.
- *Nephelometric Turbidity Unit (NTU)* - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- *Variations & Exemptions (V&E)* - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
- *Action Level* - the concentration of a contaminant, which if exceeded, triggers treatment or other requirements, which a water system must follow.
- *Treatment Technique (TT)* - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- *Maximum Contaminant Level* - The “Maximum Allowed” (MCL) is 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* - The “Goal”(MCLG) is 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.
- *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.
- *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.
- *Not Applicable (N/A)* The information in some columns of the table does not apply to certain contaminants.
 - *Presence/Absence (P/A)* – The MCL for Coliform bacteria is based simply on the presence or absence of bacteria, rather than on any numerical value. Coliform bacteria should be absent from all treated water samples.

As you can see by the table, we did not have any violations of MCLs, but we were able to detect some contaminants at low levels. The EPA has determined that your water IS SAFE for general consumption at these levels. For your information, we would like to list some of the possible health effects, which may be brought on by high levels of the contaminants we detected in your water. Please remember that MCLs are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water with a contaminant at or above the MCL level, every day for a lifetime to have a one-in-a-million chance of having the described health effect.

(5) Gross Alpha. Certain minerals are radioactive and may emit a form of radiation known as alpha radiation, protons, and beta radiation. Some people who drink water containing this radiation in excess of the MCL over many years may have an increased risk of getting cancer.

(8) Arsenic. Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

(10) Barium. Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

(13) Chromium. Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.

(14) Copper. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

(16) Fluoride. Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.

(17) Lead. 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.

(19) Nitrate. Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

(64) Dichloromethane. Some people who drink water containing dichloromethane in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.

(68) Tetrachloroethylene. Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.

(72) Trichloroethylene. Some people who drink water containing trichloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.

(73) TTHMs [Total Trihalomethanes]. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer. (TTHMs include Bromodichloromethane, Chloroform, Bromoform, and Dibromochloromethane)

(74) Toluene. Some people who drink water containing toluene well in excess of the MCL over many years could have problems with their nervous systems, kidneys, or liver.

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, 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 and other microbiological contaminants are available from the **Safe Drinking Water Hotline (800-426-4791)**.

You can also find a lot of information on drinking water through these Internet sites:

- American Waterworks Association – <http://www.awwa.org/>
- <http://www.awwa.org/advocacy/yourwater/>
- National Rural Water Association – <http://www.nrwa.org/index.htm>
- WDNR Bureau of Drinking Water & Groundwater – <http://www.dnr.state.wi.us/org/water/dwg/index.htm>
- Environmental Protection Agency, Office of Water – <http://www.epa.gov/OW/>
- NSF International – <http://www.nsf.org>

We did receive a notice of non-compliance (for insufficient monitoring) from the Wisconsin Department of Natural Resources during 2007, for a missed disinfection by-products sample. These samples are collected quarterly from the distribution system, and we missed the fourth-quarter sampling event. To help prevent this from happening in the future, we've improved the way we account for these sampling events.

Once again, we thank you for allowing us to continue providing you with clean water this year. It is a large, and complex process. We must first ensure your water receives proper treatment. We must also ensure the proper installation and maintenance of the distribution system, which carries water from the treatment plant to your homes and businesses, so the water is not contaminated between the plant and the tap. The citizens of Marinette have a huge investment in their water supply, and they have every right to be proud of it.

In our continuing efforts to maintain a safe and dependable water supply, to meet the needs of a growing community, and to meet increasing Federal and State regulations, it is necessary to make constant improvements to your water system. The public has been supportive of our efforts, even during those hard times when rate adjustments have been necessary in order to address those improvements. These are difficult times for public service budgets throughout the Nation, and Wisconsin is no exception. Please be assured the Water Utility Commission sets a high priority on fiscal responsibility in Utility operations, and that we are doing our best to provide the service you deserve at a reasonable cost.

We will soon be asking for your understanding and support once again. In response to growing concerns with our aging facility, the Commission recently voted to proceed with construction of a new treatment facility, using state-of-the-art membrane filtration. We will also address concerns with the old sections of raw water transmission main, and make some needed improvements to the Pierce Avenue elevated storage tank.

Obviously this construction will result in a substantial rate increase. The Utility is will do everything possible to minimize this increase, while still ensuring a safe, reliable, efficient water treatment system. When these projects are completed in early 2011, the water treatment system will (with proper maintenance) be well equipped to provide dependable service for the next 50 years or more.

We at the Water Utility work around the clock to provide a safe water supply to every tap. We ask that all our customers help us, and our counterparts at the Wastewater Utility, to protect our water resources. Those resources are the heart of our community, our way of life, and our children's future. Remember: Earth is a water planet.

Timothy D. Peterson
Superintendent of Utilities
City of Marinette

Results of Water Quality Analyses

Ref	Contaminant	Unit of Measurement	Date of Sample	Level Found	Range	MCLG	MCL	Violation Y/N	Typical Source of Contaminant
Inorganic Contaminants									
8	Arsenic	Ppb	2008	1	1		10	N	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
10	Barium	Ppm	2008	0.19	0.19	2	2	N	Discharge of drilling wastes; discharges from metal refineries; erosion of natural deposits
14	Copper	Ppm	2008	0.33		1.3	AL=1.3	N	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
13	Chromium	Ppb	2008	3	3	100	100	N	Discharge from steel and pulp mills; erosion of natural deposits
16	Fluoride	Ppm	Average	1.1		4	4	N	Erosion of natural deposits; water additive which promotes strong teeth; discharges from fertilizer and aluminum factories
17	Lead	Ppb	2008	3.1	nd - 24	0	AL=15	N	Corrosion of household plumbing systems; erosion of natural deposits
	Nickel	Ppb	2008	1.5	1.5	N/A	100	N	Occurs naturally in soils, ground water and surface water and is often used in electroplating, stainless steel and alloys.
19	Nitrate	Ppm	2008	0.13	0.13	10	10	N	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
	Sodium	Ppm	2008	9.7	9.7	N/A	N/A	N	N/A
Synthetic Organic Contaminants									
	Di(2-Ethylhexyl)Phthalate	Ppb	2008	0.8	0.8	6	6	N	Discharge from rubber and chemical factories
Volatile Organic Contaminants									
64	Dichloromethane	Ppb	Average	0.14	0.1 - 0.2	0	5	N	Discharge from pharmaceutical and chemical factories
68	Tetrachloroethylene	Ppb	2008	N/D	N/D	0	5	N	Leaching from PVC pipes; Discharge from factories and dry cleaners
74	Toluene	Ppm	2008	N/D	N/D	1	5	N	Discharge from Petroleum factories
72	Trichloroethylene	Ppb	2008	N/D	N/D	0	5	N	Discharge from metal degreasing sites and other factories
Unregulated Contaminants									
73	Bromodichloromethane	Ppb	Average	8.47	7.30 - 11.00	N/A	N/A	N	By-product of drinking water chlorination
73	Bromoform	Ppb	Average	0.09	nd - 30	N/A	N/A	N	By-product of drinking water chlorination
73	Chloroform	Ppb	Average	32.25	14.00-36.00	N/A	N/A	N	By-product of drinking water chlorination
73	Dibromochloromethane	Ppb	Average	2.68	1.40-3.10	N/A	N/A	N	By-product of drinking water chlorination
	Sulfate	Ppm	2008	23	23	N/A	N/A	N	NA
Radioactive Contaminants									
5	Gross Alpha, Excluding R & U	pCi/l	5/21/2002	1.2	1.2	0	15	N	Erosion of natural deposits
Disinfection Byproducts									
73	TTHM (Total Trihalomethanes)	Ppb	Average	36.6	25.4-52.8	0	80	N	By-product of drinking water chlorination
	Haloacetic Acids	Ppb	Average	41	16-72	60	60	N	By-product of drinking water chlorination