THE HEART OF WINE COUNTRY
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Consumer Confidence Report: 2016 Water Quality Report

SDWA

Beginning in October of 1999, the 1996 Safe Drinking Water Act required that all community water systems provide customers with an annual report on the quality of their drinking water. Many substances found in Lake Township Water have been previously reported in the Lake Township newsletter. We take pride in reporting that the drinking water provided by Lake Township Water System meets or exceeds established water quality standards.

This report covers the drinking water quality for Village of Baroda Water System for 2016 and copies may be obtained by calling 269-422-1779. Included are the details about where your water comes from, what it contains, and how it compares to United States Environmental Protection Agency (USEPA) and state standards. Our microbiology laboratory is certified by the state in two test methodologies to doubly ensure the quality and safety of Village of Baroda drinking water. We are members of two international organizations for water professionals: the American Water Works Association (AWWA) and the Michigan Rural Water Association (MRWA). All personnel who work at our facility are licensed professionals with an average number of 33 years experience.

Lake Township Water is pumped from Lake Michigan at an average rate of 2.15 million gallons per day. It is mixed with sodium hypochlorite and aluminum sulfate and stays for a period of time in four large tanks to allow disinfection and the settling out of sand. It is then filtered and the quality is ensured by over 710 tests performed per day, every day of the year. Once the drinking water is pumped from the plant, it is checked for chlorine and any possible microorganisms. We also contract with eight independent laboratories for the testing of over 200 possible contaminants that could possibly enter a water supply.

As of December 2008, our Membrane Filtration Plant has been on line. A significant change in water quality has been measured in the less corrosiveness of the water.

Definitions

Federal law also requires that we explain the contaminants that may be present in source water (untreated water), not just Lake Michigan but other types of source water as well. These sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. 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 resulting from the presence of animals or human activity.

Contaminants that might be expected to be in source water (untreated 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 storm water 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 storm water 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 storm water 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 tap water is safe to drink, the USEPA prescribes regulations, which limit the amount of certain contaminants in water provided by the public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. There are currently local studies being done to identify and reduce the amount of contaminants in local streams feeding into Lake Michigan.

Definitions of terms and abbreviations used in this report:

- Maximum Contaminant Level Goal (MCLG) - "The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety."
- Maximum Contaminant Level (MCL) - "The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCGL as feasible using the best available treatment technology."
- Part per million - ppm - One part substance per million parts water
- Part per billion - ppb - One part substance per billion parts water
- ND - Not detected.
- N/A- Not applicable
- pCi/L - Measurement of radioactivity in water
- FDA - Food and Drug Administration
- NTU - Nephelometric Turbidity Units
- Turbidity - Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtering system.
- Unregulated contaminants - Those contaminants for which the USEPA has not established drinking water standards. The purpose being the monitoring of these contaminants to assist the EPA in determining the occurrence in drinking water and whether future regulation is warranted.
- 90^{th} percentile - 90 percent of the samples were below the number listed
- THM - Trihalomethanes, a by-product of drinking water chlorination
- Action Level (AL) - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow
- CDC - Center for Disease Control

Summary of Water Characteristics

Contaminants in water supplies are grouped in the following manner:

i Contaminants subject to an MCL
ii Contaminants for which monitoring is required by Section 141.40 (unregulated contaminants) of the Safe Water Drinking Act (SWDA)
iii The regulated disinfection by-products found in our water are THM's, specifically.

Vulnerability of sub-populations:

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 from their health care providers. USEPA/CDC guidelines on appropriate means to lessen the risk of infection from cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

We invite public participation in decisions that affect drinking water quality. Opportunities for the Public to participate include Township Board meetings, special meetings, and plant tours. For more information about your water, or the contents of this report, call 269-465-3850. For more information about safe drinking water, visit the U.S. Environmental Protection Agency at www.epa.gov/safewater/. Consumer Confidence Reports will not be mailed.

Contaminants and their presence in water:

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 Safe Drinking Water Hotline at (800) 426-4791.

Source Water Assessment

Your water comes from Lake Michigan. The State performed an assessment in 2003 to determine the susceptibility or the relative low potential of contamination. The susceptibility rating is on a seven-tiered scale from "very-low" to "very-high" based primarily on land uses and potential contaminant sources within the source water area. The Lake Township Water System source water is categorized with moderately high susceptibility given land uses and potential contaminant sources within the source area. Lake Township Water System has instituted pollution prevention programs and is cognizant of additional potential threats to its source of drinking water.

Calendar Year 2016 Compliance Data Collected

The presence of contaminants in the drinking water does not necessarily indicate that the drinking water poses a health risk. The levels (if any) found in Lake Township Water do not necessarily pose a health risk. However, federal law requires we report the highest level of any contaminant detected in our treated water to you. These results are listed in the tables of the next two pages. Unless otherwise noted, the data presented in this table is from testing done January 1, 2016 - December 31, 2016 The USEPA allows water utilities to monitor certain contaminants less than once a year because concentrations of these contaminants are not expected to vary significantly from year to year.

Treatment Plant Report

Treatment at plant was in 100% compliance of regulatory limit.

ANALYTIC NAME REGULATED	TEST RESULT	MCL PPM	SOURCE	MIN REPORT LEVEL (MCLG)
Fluoride	0.11 ppm 08/02/2016	4.0	Water additive which promotes Strong teeth	4 ppm
Nitrate as N	ND 08/02/2016	10	Runoff from fertilizer use; leaching from septic tanks, sewage, erosion of natural deposits	10 ppm
Turbidity	Average	MCL	Lowest Monthly % Meeting the MCL	N/A
Filter Effluent Turbidity	0.03 NTU	0.5 NTU	100%	N/A
Membrane Effluent Turbidity	0.03 NTU	0.5 NTU	100%	N/A

Tap Report – Lead & Copper

Lead & Copper	Test Result	AL	Source	MCLG	AL
Lead - ppb - 90th percentile MCL = AL **	2 ppb 11/24/15	15 ppb	Corrosion of household plumbing systems;	0	0
Copper - ppb - 90th percentile	80 ppb 11/24/15	1300 ppb	Corrosion of household plumbing systems;	1.3ppm	0

** If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Lake Township Water System is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Tap Report – Microbiology

Microbiology	MCL	MCLG	Source	Test Result
Total Coliform	Presence in >5 % of monthly samples	0	Environmental bacteria, soil runoff	0
Fecal Coliform	Presence in more than 1 sample per month	0	Soil runoff, sewage, animal droppings	0

Unregulated Tap Report

	Detection Range	MCLG	Source
Sulfate	26 ppm - 08/02/2016	N/A	Erosion of natural deposits.
Chloride	26 ppm - 08/02/2016	N/A	Erosion of natural deposits.
Hardness as CaCo3	137 ppm - 08/02/2016	N/A	Erosion of natural deposits.
Sodium	137 ppm - 08/02/2016	N/A	Erosion of natural deposits.

Distribution Report

Regulated in Distribution System	Test Result	MCL	Source	MCLG
Chlorine Residual System	Average 1.35 ppm	4ppm	Water additive to control microbes	4 ppm
Total Organic Carbon *	1.68ppm quarterly average Compliance performance ratio to removal is 1.00 Range is 7.3 to 11.5 % removal, 9.6 % removal	Met Alternative Compliance Criteria – TTHM & HAA5 <= 40/30 ppb	Naturally present in the environment.	NA
Total Trihalomethanes	56 ppb – 05/09/16 Range39to 72, highest running annual average = 56 ppb	80 ppb	Byproduct of drinking water chlorination	N/A
Total Haloacetic Acids	24 ppb –05/09/16 Range 18 to 29, highest running average = 24	60 ppb	Byproduct of drinking water chlorination	N/A

* The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set by the state. TOC has no health effects but TOC provides a medium for the formation of DBP's which include THM's and HAA's. Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems.

Radiation Report

Analytic Name	Test Result	MCL	Source	Min Report Level (MCLG)
Gross alpha 08/06/14	ND pCi/L	15.0*	Erosion of natural deposits	0
Radium 226 6/8/2011	<0.1 pCi/L	5.0*	Erosion of natural deposits	0
Radium 228 5/19/2011	<0.5 pCi/L	5.0*	Erosion of natural deposits	0

*Pico Curies per Liter