

2018 Consumer Confidence Report Data MUKWONAGO WATERWORKS, PWS ID: 26802094

Water System Information

Customer Questions: If you have any questions about this report or concerning your utility, contact the Utility office, Dave Brown or Wayne Castle at (262) 363-6416. We want our customers to be informed about their utility. Email at dbrown@villageofmukwonago.com or wcastle@villageofmukwonago.com.

Source of Water: The Village Utility currently operates 5 groundwater wells to provide water to the Village. The Village Utility operates 2 deep wells, and 3 shallow wells. Deep groundwater wells have great tasting water, but do contain naturally occurring radium. Shallow wells avoid the radium issue, but do contain iron which will cause “rusty water”. The Village Utility blends water from both wells, to provide the best water possible and minimize the issues of each type of well. Due to new development The Village Utility installed a booster station. Since the area is much higher than the rest of the Village the booster station was necessary to provide proper water pressure.

Groundwater Protection Program and System Improvements: A Well Head Protection Plan (WHPP) was prepared to identify any potential contaminants to the wells and to project the area surrounding each well. The enforcement aspect of the WHPP is achieved by an Ordinance which identified the permitted and prohibited uses for the area surrounding the wells.

Hydrant Flushing: The Village flushes hydrants twice a year to help remove iron deposits from the system. The dates are published on the Village’s website. When we do flush, customers may experience rusty water. Avoid doing laundry when the flushing process is occurring. In the event you have a problem with the rust, stop at Village Hall to get a bottle of chemical to help remove it.

Sprinkling sewer credit: The most common period of sprinkling lawns and summer water use is from June thru August. The Village uses the March thru May billing period to establish the “maximum billable sewer volume” for issuing bills for the summer quarter. If a pool needs to be filled, wait until after June 5th, to avoid the sewer charge. Water Conservation: The Village does have a water conservation ordinance to control sprinkling from May 1 thru September 15. Residents with odd numbered addresses can sprinkle on odd numbered days of the month. Residents with even numbered addresses can sprinkle on the even numbered days of the week.

Check your meter: To see if you have a water leak, turn off all uses for water and look at your water meter. If everything is off, the meter should not be recording any flow. If it is, you’re paying for water that’s being wasted. If it’s moving, look for the source. If you can’t find it, call us at 262.363.6416 and we’ll try to help find the problem.

Water Sample Test Results: The Utility follows the sampling and testing requirements established by the Wisconsin Department of Resources. The water supplies are tested, to ensure that the water provided to the community complies with safe drinking water standards. More information about materials in the

water and potential health effects is available by calling the Safe Drinking Water Hotline at 1-800-426-4791 or at <http://www.epa.gov>. **We are proud to report that the Mukwonago water met all USEPA standards.**

Opportunity for input on decisions affecting your water quality

Board/Public Works Meetings: Village Board Meetings are scheduled for the 3rd Wednesday of every month, while Committee Of The Whole (COW) meets the 1st Wednesday of every month. For specific dates and times of each meeting, please see the Village of Mukwonago website.

Health Information

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 (800-426-4791).

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 systems 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 microbial contaminants are available from the Environmental Protection Agency's safe drinking water hotline (800-426-4791).

Sources of Water

Source ID	Source	Depth (in feet)	Status
Well 3	Groundwater	1500	Active
Well 4	Groundwater	1500	Active
Well 5	Groundwater	143	Active
Well 6	Groundwater	105	Active
Well 7	Groundwater	180	Active

To obtain a summary of the source water assessment please contact, Wayne Castle at 262-363-6416.

Educational Information

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, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Definitions

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an E. coli MCL violation has occurred or why total coliform bacteria have been found in our water system, or both, on multiple occasions.
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.
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.
MFL	million fibers per liter
MRDL	Maximum residual disinfectant level: 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.
MRDLG	Maximum residual disinfectant level goal: 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.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units

Term	Definition
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Disinfection Byproducts

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2018)	Violation	Typical Source of Contaminant
HAA5 (ppb)	DBP1	60	60	7	7		No	By-product of drinking water chlorination
TTHM (ppb)	DBP2	80	0	6.3	6.3		No	By-product of drinking water chlorination

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2018)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.086	0.049 - 0.086	1/30/2017	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits

CHROMIUM (ppb)		100	100	1	0 - 1	1/30/2017	No	Discharge from steel and pulp mills; Erosion of natural deposits
CYANIDE (ppb)		200	200	9	9	12/11/2014	No	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
FLUORIDE (ppm)		4	4	0.8	0.1 - 0.8	1/30/2017	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NICKEL (ppb)		100		4.9000	2.3000 - 4.9000	1/30/2017	No	Nickel occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products.
NITRATE (NO3-N) (ppm)		10	10	1.20	0.39 - 1.20		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	54.00	18.00 - 54.00	1/30/2017	No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2018)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1300	0 of 21 results were above the	9/19/2017	No	Corrosion of household plumbing systems; Erosion of natural deposits;

				action level.			Leaching from wood preservatives
LEAD (ppb)	AL=15	0	5.80	1 of 21 results were above the action level.	8/18/2017	No	Corrosion of household plumbing systems; Erosion of natural deposits

Radioactive Contaminants

<i>Contaminant (units)</i>	<i>Site</i>	<i>MCL</i>	<i>MCLG</i>	<i>Level Found</i>	<i>Range</i>	<i>Sample Date (if prior to 2018)</i>	<i>Violation</i>	<i>Typical Source of Contaminant</i>
GROSS BETA PARTICLE ACTIVITY (pCi/l)		n/a	n/a	4.7	4.3 - 4.7	9/24/2014	No	Decay of natural and man-made deposits. MCL units are in millirem/year. Calculation for compliance with MCL is not possible unless level found is greater than 50 pCi/l.
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	1.3	1.3		No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.9	0.9		No	Erosion of natural deposits

Health effects for lead when exceeding the action level

Contaminant Health Effects

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.

Additional Health Information

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. Mukwonago Waterworks 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 your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Other Compliance

Noncompliance with Recordkeeping and Compliance Data

Monthly Operating Report Submission: Violation start 11-11-18 end 11-12-18. An operator error led to the report not being submitted correctly which led to the report being submitted two days late. This was the first time the report was completed by this operator and has since received more training on submitting the monthly report.