



2017 CONSUMER CONFIDENCE REPORT

The City of Pewaukee (“City”) Water & Sewer Utility (“Utility”) is pleased to present the 2017 Consumer Confidence Report. This annual report is designed to inform you about the quality of the drinking water the City delivers to you every day. This report communicates to the public the source of the City’s water, and also summarizes the detected compounds from the sampling results for the year ending 2017. Our goal is to provide you with safe and dependable drinking water.

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 USEPA’s Safe Drinking Water Hotline at (800) 426-4791, and can be found online at <http://www.epa.gov/dwstandardsregulations>.

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. USEPA and 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 at (800) 426-4791, and can be found online at <http://www.cdc.gov/parasites/crypto/audience-immune-compromised.html>.

Source(s) of Water

Source ID	Source	Depth (ft.)	Status
1	Groundwater	1,200	Active
2	Groundwater	1,075	Active
3	Groundwater	340	Active
4	Groundwater	350	Active
5	Groundwater	1,000	Active
6	Groundwater	1,415	Active

Source ID	Source	Depth (ft.)	Status
7	Groundwater	1,344	Active
8	Groundwater	180	Active
9	Groundwater	1,400	Active
10	Groundwater	182	Active
11	Groundwater	1,180	Active
12	Groundwater	154	Active

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 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 come from gas stations, urban storm water runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA 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 shall provide the same protection for public health.

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 five years, it will appear in the tables below along with the sample date.

Primary Drinking Water Standards

Contaminant (units)	Action Level	MCLG	90 th Percentile Level Found	# of Results	Sample Date (if prior to 2017)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL = 1.3	1.3	0.1800	0 of 20 results were above the action level		No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
LEAD (ppb)	AL=15	0	4.00	2 of 20 results were above the action level		No	Corrosion of household plumbing systems; erosion of natural deposits

Disinfection Byproducts

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2017)	Violation	Typical Source of Contaminant
HAA5 (ppb)	MDBP-2	60	60	4	4	8/9/2016	No	By-product of drinking water chlorination
TTHM (ppb)	MDBP-2	80	0	22.4	22.4	8/9/2016	No	By-product of drinking water chlorination

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2017)	Violation	Typical Source of Contaminant
ANTIMONY TOTAL (ppb)		6	6	0.2	0.0-0.2		No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
ARSENIC (ppb)		10	N/A	6	0-6		No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production waste
BARIUM (ppm)		2	2	0.180	0.018-0.180		No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
CADMIUM (ppb)		5	5	0.1	0.0-0.1		No	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints

FLOURIDE (ppm)		4	4	0.5	0.4-0.5		No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
MERCURY (ppb)		2	2	0.3	0.0-0.3		No	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
NICKEL (ppb)		100		9.2000	0.6800-9.2000		No	Nickel occurs naturally in soils, groundwater and surface waters and is often used in electroplating, stainless steel and alloy products
NITRATE (NO3-N) (ppm)		10	10	0.16	0.00-0.16		No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
SODIUM (ppm)		N/A	N/A	87.00	9.40-87.00		No	N/A
THALLIUM TOTAL (ppb)		2	0.5	0.2	0.0-0.2		No	Leaching from ore-processing sites; discharge from electronics, glass and drug factories

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2017)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/L)		15	0	11.6	3.2-14.1		Yes; ongoing	Erosion of natural deposits
RADIUM (226 + 228) (pCi/L)		5	0	6.2	0.9-7.2		Yes; ongoing	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (N/A)		N/A	N/A	13.2	3.2-15.8		No	Erosion of natural deposits
COMBINED URANIUM (µg/L)		30	0	2.2	0.0-2.7		No	Erosion of natural deposits

Synthetic Organic Contaminants Including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2017)	Violation	Typical Source of Contaminant
DI(2-ETHYLHEXYL) PHTHALATE (ppb)		6	0	0.6	0.6		No	Discharge from rubber and chemical factories

Volatile Organic Compounds

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2017)	Violation	Typical Source of Contaminant
ETHYLBENZENE (ppb)		700	700	0.7	0.0-0.7		No	Discharge from petroleum refineries
TOLUENE (ppm)		1	1	0.0005	0.0000-0.0005		No	Discharge from petroleum refineries
XYLENES, TOTAL (ppm)		10	10	0.0056	0.0000-0.0056		No	Discharge from petroleum factories; discharge from chemical factories

Health Effects for Any Contaminants with MCL Violations/Action Level Exceedances

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.

GROSS ALPHA, EXCL. R & U	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
RADIUM, (226 & 228)	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

Corrective Actions Taken

Well #1 Radium Violation: Throughout 2017, the Utility reduced the rate/use of the well while we designed the water treatment system within the confines of the existing well house. In July 2018, the Utility will be taking the well out of service to install a hydrous manganese oxide (HMO) radium removal treatment system. The renovation of the well house and equipment installation will take place over the next five months, with the anticipated start-up of the treatment system in mid-December 2018.

Well #5 Gross Alpha Violation: The Utility conducted pilot testing on Well #5 in 2015. We identified a preferred treatment method, however, the installation of the treatment plant is very costly. Other options are being considered that might be available, including the construction of a new “feeder” water main loop and/or eliminating the well. This well is operated at a reduced rate and on a minimal schedule.

Additional Health Information

While your drinking water meets USEPA’s standard for **arsenic**, it does contain low levels of arsenic. USEPA’s standard balances the current understanding of arsenic’s possible health effects against the costs of removing arsenic from drinking water. USEPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

If present, elevated levels of lead can cause serious health problems, especially for infants, young children, women who are pregnant, breastfeeding, or who may become pregnant. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. City of Pewaukee Water & Sewer Utility 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 can be obtained by calling the USEPA Safe Drinking Water Hotline at (800) 426-4791, or online at www.epa.gov/safewater/lead.

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
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.

Opportunity for Input on Decisions Affecting Your Water Quality

The City of Pewaukee Public Works Committee meets at W240N3065 Pewaukee Road, Pewaukee, WI, in the Common Council Chambers at 6:00 p.m. Meetings are scheduled on the 4th Thursday of the following months: January, March, May, July, September and November.

If you would like to know more about the information contained in this report, please contact Jane E. Mueller, Utility Manager, at (262) 691-0804, or email publicworks@pewaukee.wi.us.