

2018 Consumer Confidence Report Data

VIROQUA WATERWORKS, PWS ID: 66302632

Water System Information

If you would like to know more about the information contained in this report, please contact Sarah Grainger at (608) 637-7154 x20.

Opportunity for input on decisions affecting your water quality

Public Works meetings are generally the 1st and 3rd Tuesday of the month. Council Meetings are the 2nd and last Tuesday of the month.

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).

Source(s) of Water

Source ID	Source	Depth (in feet)	Status
3	Groundwater	530	Perm. Abandoned as of 03/01/15
4	Groundwater	880	Active
5	Groundwater	1100	Active
6	Groundwater	1155	Active

To obtain a summary of the source water assessment please contact, Sarah Grainger at (608) 637-7154 x20.

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
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)	T-3	60	60	1	1		No	By-product of drinking water chlorination
TTHM (ppb)	T-3	80	0	1.8	1.8		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
ANTIMONY TOTAL (ppb)		6	6	0.6	0.0 - 0.6	5/10/2017	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
ARSENIC (ppb)		10	n/a	1	0 - 1	5/10/2017	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
BARIUM (ppm)		2	2	0.042	0.016 - 0.042	5/10/2017	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
CADMIUM (ppb)		5	5	2.0	0.0 - 2.0	5/10/2017	No	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; runoff from waste batteries and paints
FLUORIDE (ppm)		4	4	0.2	0.1 - 0.2	5/10/2017	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (NO ₃ -N) (ppm)		10	10	0.05	0.00 - 0.05		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2018)	Violation	Typical Source of Contaminant
SELENIUM (ppb)		50	50	2	0 - 2	5/10/2017	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
SODIUM (ppm)		n/a	n/a	2.68	1.79 - 2.68	5/10/2017	No	n/a
THALLIUM TOTAL (ppb)		2	0.5	0.3	0.0 - 0.3	5/10/2017	No	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories

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	0.0711	0 of 20 results were above the action level.	6/27/2017	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	1.45	0 of 20 results were above the action level.	6/27/2017	No	Corrosion of household plumbing systems; Erosion of natural deposits

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2018)	Violation	Typical Source of Contaminant
GROSS BETA PARTICLE ACTIVITY (pCi/l)		n/a	n/a	7.1	7.1	10/22/2014	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	4.2	3.3 - 4.2	5/10/2017	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	4.9	4.9		No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	5.0	3.4 - 5.0	5/10/2017	No	Erosion of natural deposits

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2018)	Violation	Typical Source of Contaminant
COMBINED URANIUM (ug/l)		30	0	1.2	0.1 - 1.2	5/10/2017	No	Erosion of natural deposits

Unregulated Contaminants

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. EPA required us to participate in this monitoring.

VIROQUA UNREGULATED CONTAMINATE MONITORING RULE 4 SAMPLING RESULTS In 2018 the City of Viroqua was randomly selected to participate in the US EPA Unregulated Contaminant Monitoring Rule (UCMR4) program to monitor for unregulated contaminants. The EPA uses the Unregulated Contaminant Monitoring Rule (UCMR) to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act (SDWA). EPA's selection of contaminants for a particular UCMR cycle is largely based on a review of the Contaminant Candidate List (CCL). The UCMR program was developed in coordination with the CCL. The CCL is a list of contaminants that: 1. are not regulated by the National Primary Drinking Water Regulations, 2. are known or anticipated to occur at public water systems and 3. may warrant regulation under the SDWA. The Viroqua water system was required to monitor 30 List 1 contaminants: metals, pesticides, semi-volatile organic chemicals (SOCs), alcohols; and haloacetic acids (HAAs). Most of the parameters monitored have non-detectable sample results. Two sets of parameters have detectable sample results Manganese and Haloacetic Acids (HAAs).

MANGANESE Manganese is a naturally-occurring element that can be found ubiquitously in the air, soil, and water. Manganese is also an essential nutrient for humans and animals. Adverse health effects can be caused by inadequate intake or over exposure. EPA's Drinking Water Health Advisory 2004 states the following about Manganese levels in Drinking Water: "In order to enhance consumer acceptance of water resources, this advisory recommends reducing manganese concentrations to or below 0.050 mg/L, the EPA's Secondary Maximum Contaminant Level (SMCL) for Mn. The SMCL is based on staining and taste considerations. It is not a federally enforceable regulation, but is intended as a guideline for States. States may establish higher or lower levels depending on the local conditions, such as unavailability of alternate water sources or other compelling factors, provided that public health and welfare are not adversely affected. The lifetime health advisory value of 0.3 mg/L will protect against concerns of potential neurological effects. In addition, this document provides a One-day and 10-day HA of 1 mg/L for acute exposure. However, it is advised that for infants younger than 6 months, the lifetime HA of 0.3 mg/L be used even for an acute exposure of 10 days, because of the concerns for differences in manganese content in human milk and formula and the possibility of a higher absorption and lower excretion in young infants." Viroqua sampling results are in the table below.

MANGANESE TEST RESULTS 2/20/2018 : Well 4 - 0.012 mg/L, Well 5 - 0.010 mg/L, Well 6 - 0.022 mg/L; 8/20/2018: Well 4 - 0.013 mg/L, Well 5 - 0.010 mg/L, Well 6 - 0.024 mg/L **HALOACETIC ACIDS** The City of Viroqua currently monitors HAA5 in the distribution system on an annual basis as a part of the WDNR routine monitoring requirements. The UCMR samples were taken to include 9 HAAs. "Haloacetic acids (HAA5, HAA6Br, HAA9) are a group of disinfectant byproducts that are formed when disinfectants, such as chlorine or chloramine, are used to treat water and react with naturally occurring organic and inorganic matter present in source waters. Which HAA forms depends on several factors, so HAAs are often tracked and described as groups of individual acidic compounds. The primary way people are exposed to HAAs is by ingesting disinfected drinking water. There is not a significant risk of haloacetic acids present in water being absorbed through the skin. Data from research studies indicate that several HAAs, e.g., dichloroacetic acid and trichloroacetic acid, may be carcinogenic in laboratory animals. Exposure to other HAAs has also been associated with reproductive and developmental effects in laboratory animals. The current Maximum Contaminant Level (MCL) set for HAA5 is because of concern that exposure to HAAs over many years may

increase the risk of cancer.” DrinkTap.org Haloacetic Acids Regulated HAAs (HAA5) were included in the monitoring program to gain a better understanding of co-occurrence with currently unregulated disinfection byproducts. The MCL for HAA5 is 60 ug/L. Viroqua sampling results are in the table below. HALOACETIC ACIDS TEST RESULTS AT 110 EDUCATION AVENUE 2/20/2018: HAA5 – 0.377 ug/L, HAA6Br – 0 ug/L, HAA9 – 0.377 ug/L; 8/20/2018: HAA5 – 0.890 ug/L, HAA6Br – 0.356 ug/L, HAA9 – 1.246 ug/L,

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. Viroqua 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.