

WAUSAU WATERWORKS

FOR YOU!

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Water Quality Report



Harold Ferge, a Certified Water Operator, performs a test for alkalinity at the Water Treatment Plant laboratory. This is just one of many tests conducted on a daily basis. Thousands of water quality tests are run throughout the year to ensure you are receiving the highest quality of water.

Test results are logged and submitted monthly to the Wisconsin Department of Natural Resources to ensure compliance with all state and federal drinking water requirements.



Let's Raise Our Glasses to Toast Water Quality Excellence!

Wausau Water Works is proud to present this year's Water Quality Report, and even more proud to announce that our test results for 2013 met all the requirements for safe, excellent water quality. A complete list of the results of these tests are shown on pages 4-5 of this report.

We are often asked "why do you prepare this report?" Because we want you, our valued customers, to be informed about your drinking water, and know that the product you are drinking is safe and of the highest quality. The federal government also wants you to be informed about your drinking water, and requires all water utilities in the United States to provide this information to their customers on an annual basis. So let's raise our glasses (of water, of course) and toast to another year of water quality excellence!



IMPORTANT WATER QUALITY INFORMATION ENCLOSED

Dlaim ntawv tshaabxu nuav muaj lug tseemceeb heev nyob rua huv hws has txug cov dlej mej haus. Kuas it tub paab txhais rua koj, los nrug ib tug kws paub lug thaam.

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

Do Not to Flush!

With today's hectic schedules we all enjoy the modern conveniences such as anti-bacterial wipes, diaper wipes, disposable diapers, etc. Unfortunately, our Wastewater Treatment Plant has seen an increase in these types of products. These items are notorious for plugging up pumps and can get caught on roots or other debris in laterals and sewer mains causing backups to occur. Maintenance costs to remove these products and repair equipment is also increasing. These items do not break down like toilet paper does.

Our sewer collection crew also has seen an increase in rags and wipes in our sewer mains. When backups occur as a result of these types of items, it is often at the expense of the property owner. Grease is another issue that causes homeowners problems. Grease should be wiped from pans and disposed of in the garbage prior to washing dishes. Using soaps that claim to eliminate grease, only breaks it down for a short period of time where it again congeals further down the line, clinging to other debris such as rags or roots.

Remember, use your toilet only for its' intended purpose.

**Never flush
diapers, wipes of any
type, feminine hygiene
products, rags, paper
towels, or anything that is
not intended for the toilet.
Dispose of these products
in your garbage can.**



Thousands of Water Quality Tests Conducted Annually

The substances shown on the tables on pages 4 and 5 indicate contaminants that are detected in our drinking water. Other items that are tested, but are indicated as non-detects (meaning their amounts are so low, if at all present, that they are not detected during testing) include: Antimony, Beryllium, Cadmium, Chromium, Mercury, Selenium, Thallium, Aldicarb, Atrazine, Pentachlorophenol, Toxaphine, Benzene, Styrene, Vinyl Chloride, and Xylene, just to name a few.

Thousands of water quality tests are performed annually to ensure that you are receiving the best possible quality of drinking water. Additional tests, including inorganic substances, disinfection byproducts, radioactive substances, unregulated contaminants, microbiological, volatile organic and synthetic organic substances which include pesticides and herbicides, are conducted on a three to five year cycle.

Where Does Our Water Come From?

Wausau's drinking water comes from six municipal wells, all of which are located near the Wisconsin River. These wells range in depth from 95 feet to 160 feet and pump anywhere from 900 to 3000 gallons per minute.

From the wells, the water travels to our Water Treatment Plant where it undergoes treatment to remove iron and manganese prior to distribution to your home or business. Approximately 250 miles of mains deliver the water from the Treatment Plant to approximately 16,000 homes and businesses served by Wausau Water Works.

To obtain a summary of the source water assessment, please contact Dick Boers at 715-261-7286

Did You Know?

All drinking water, including bottled water, may be reasonably expected to contain naturally dissolved elements/minerals. It's important to remember that the presence of these constituents does not necessarily pose a health risk, and generally are required for a balanced diet. All sources of drinking water are subject to potential contamination by constituents that are naturally occurring, or are man-made. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. 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.



Routine Water Quality Testing...

The Water Quality Test Results shown on pages 4-5 only lists substances which were detected. **We run numerous tests for substances which are not detected.** We also run routine tests to help us evaluate water characteristics such as pH, alkalinity, hardness, etc. A summary of those results is shown below.

pH - Typical result: 8.5. Ideal range: 7 to 8.5. Measure of acidity—low values may indicate corrosive water.

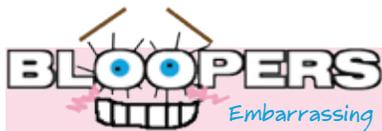
Alkalinity - Typical result: 70 to 80 mg/l. Measure of water's ability to neutralize acids—is related to pH and hardness.

Hardness - Typical results: 80 to 100 mg/l or 4-1/2 to 6 grains/gallon. Wausau's water is moderately soft. Hard water is beneficial to health, but high levels can decrease soap's cleaning ability and cause scaling inside of pipes.

Iron - Typical result: less than 0.05 mg/l. Natural levels in our well water can be high, but it is removed by our treatment plant - not a health concern, but it can cause taste and odor problems as well as staining of laundry when bleach is used.

Manganese - Typical result: less than 0.04 mg/l. Like iron, a naturally occurring mineral that is removed at the treatment plant.

What these tests indicate is that we have high quality, good tasting water available right at our taps!



Embarrassing moments in the life of a water drinker

Taking a shortcut and using the hot water tap when cooking.

That's taboo, and it can shortcut your health. Lead can dissolve into hot water from lead pipes and solder. Cold water is better. Heat it on the stove when cooking or making baby formula.

Source: water.epa.gov

Important Info

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 of 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 may also contact our office at 715-261-6530 if you have any questions regarding your water quality, or to obtain information on lead testing in your home. Our office hours are 8:00 a.m. to 4:30 p.m. Monday through Friday.

Definitions of Terms

The terms listed below relate to the tables as shown on pages 4-5

AL - Action Level - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

PPM - Parts Per Million or milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

PPB - Parts Per Billion or micrograms per liter (ug/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

pCi/l - Picocuries per liter - measure of radioactivity.

MCL - 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.

MCLG - Maximum Contaminant Level Goal - the "goal" (MCLG) is a 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.

TCR - Total Coliform Rule.

ND - None Detected.

MCLs are set at a very stringent level. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

**WATER QUALITY TEST RESULTS**

Substance	Unit Measurement	MCLG	MCL	Level Detected	Violation Y/N	Likely Source Of Substance
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Disinfection Byproducts

HAA5	ppb	60	60	16 (Range 14-16)	NO 	By-product of drinking water chlorination
TTHM	ppb	0	80	10 (Range 9.2-10)	NO 	By-product of drinking water chlorination

Inorganic Contaminants

Arsenic (Last sample date 09/09/2011)	ppb	N/A	10	2	NO 	Erosion of natural deposits.
Barium (Last sample date 09/09/2011)	ppm	2	2	.005	NO 	Erosion of natural deposits
Copper (Last sample date 06/22/2011)	ppm	1.3	AL=1.3	0.886 (0 of 50 results were above the action level)	NO 	Corrosion of household plumbing systems
Cyanide (Last sample date 09/09/2011)	ppb	200	200	12	NO 	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride	ppm	4	4	1.1 (Range 1.0-1.1)	NO 	Erosion of natural deposits; water additive which promotes strong teeth
Lead (Last sample date 07/08/2011)	ppb	0	AL=15	13.60 (5 of 50 results were above the action level)	NO * 	Corrosion of service lines and household plumbing systems
Nickel (Last sample date 09/08/2011)	ppb		100	1.3000 (Range 1.1000-1.3000)	NO 	Nickel occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products
Nitrate (N03-N)	ppm	10	10	.98 (Range .80-.98)	NO 	Runoff from fertilizer use: leaching from septic tanks, sewage; erosion of natural deposits

* Systems exceeding a lead and/or copper action level must take actions to reduce lead and/or copper in the drinking water. The lead and copper values represent the 90th percentile of all compliance samples collected. If you want more information on the number of sites or the actions taken to reduce these levels, please contact Wausau Water Works at 715-261-6530.

Substance	Unit Measurement	MCLG	MCL	Level Detected	Violation Y/N	Likely Source Of Substance
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Inorganic Contaminants (continued)

Nitrite (N02-N) (Last sample date 09/08/2011)	ppm	1	1	.310 (Range .210-.310)	NO 	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (Last sample date 09/09/2011)	ppm	N/A	N/A	18 (Range 13-18)	NO 	Naturally occurring, contained in corrosion control additive

Radioactive Contaminants

Radium (226 + 228) (Last sample date 7/15/2009)	pCi/l	0	5	1.5 (Range 1.4-1.5)	NO 	Erosion of natural deposits
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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.

Sulfate (Last sample date 09/09/2011)	ppm			75 (Range 49-75)	NO 	Naturally occurring
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Microbiological Contaminant

Coliform (TCR)	ppm	0	Presence of coliform bacteria in >=5% of monthly samples	Count of Positives 4%	NO 	Naturally occurring
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Data presented in these tables represent the most current test results. Some tests are performed on a 3 year cycle.

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 tables on these two pages list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in these 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 table along with the sample date.

LEAD INFORMATION—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. 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. Wausau Water Works 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.

INFORMATION ON MONITORING FOR CRYPTOSPORIDIUM AND RADON—Our water system did not monitor our water for cryptosporidium or radon during 2013. We are not required by State or Federal drinking water regulations to do so.

How to Avoid a Water System Cross Connection

What is a Cross Connection? A cross-connection is an actual or potential connection between the safe drinking water (potable) supply and a source of contamination or pollution. State plumbing codes require approved backflow prevention methods to be installed at every point of potable water connection and use. Cross-connections must be properly protected or eliminated.

How does contamination occur? When you turn on your faucet, you expect the water to be as safe as when it left the treatment plant. However, certain hydraulic conditions left unprotected within your plumbing system may allow hazardous substances to contaminate your own drinking water or even the public water supply.

Water normally flows in one direction. However, under certain conditions, water can actually flow backwards; this is known as Backflow. There are two situations that can cause water to flow backwards: backsiphonage and backpressure.

Backsiphonage may occur due to loss of pressure in the municipal water system during a fire fighting emergency, a watermain break or system repair. This creates a siphon in your plumbing system which can draw water out of a sink or bucket and back into your water or the public water system.

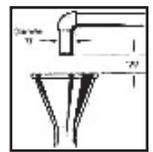
Backpressure may be created when a source of pressure (such as a boiler) creates a pressure greater than the pressure supplied from the public water system. This may cause contaminated water to be pushed into your plumbing system through an unprotected cross-connection,

Insights to Protect Your Drinking Water DO...

- Keep the ends of hoses clear of all possible contaminants
- Make sure dishwashers are installed with a proper air-gap device
- Verify and install a simple hose bibb vacuum breaker on all threaded faucets around your home

DON'T...

- Submerge hoses in buckets, pools, tubs, sinks or ponds
- Use spray attachments without a backflow prevention device
- Connect waste pipes from water softeners or other treatment systems directly to the sewer or submerged drain pipe. Always be sure there is an one inch "air gap" separation



In the Bathroom Hand Held Shower Fixture

The hand held shower fixture is Compliant if:

- When shower head is hanging freely, it is at least 1" above top of the flood level rim of the receptor (tub)



- Complies with ASSE #1014

Has the ASME code 112.18.1 stamped on the handle

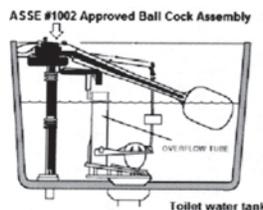
1" minimum AIR GAP above Tub from fixture outlet



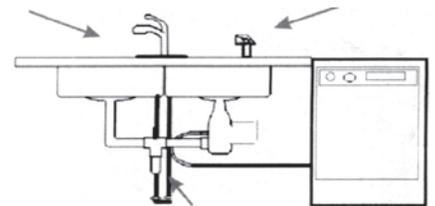
In the Bathroom—Toilet Tanks

There are many unapproved toilet tank fill valve products sold at common retailers which do not meet the requirements for backflow prevention.

- Look for ASSE #1002 Standard symbol on the device and packaging.
- Replace any unapproved devices with an ASSE #1002 approved anti-siphon ball-cock assembly. Average cost is typically between \$12 to \$22 at home improvement stores.
- Verify overflow tube is one inch below critical level (CL) marking on device.



In the Kitchen

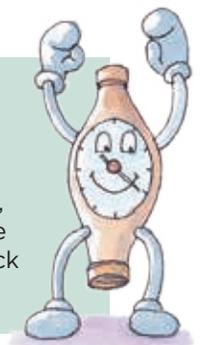


Hoses and water treatment devices may create a potential backflow hazard if not properly isolated with backflow prevention methods.

Source—Wisconsin Municipal Environment Group—Water Division

Watch Your Bill...

Does your water bill have a message stating that it is time to upgrade your water meter? To ensure accuracy, we are required to exchange and test water meters every ten years. If your bill has this message, please contact our customer service staff at 715-261-6530 to schedule an appointment. There is no charge for this service, and appointments generally take less than one hour. Service technicians occasionally knock on doors or leave tags on doors requesting this service.



Did You Know??

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 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 productions, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources, such as agriculture, urban storm water runoff and residential users.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum productions, 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 operations.

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.



Ride the Water Cycle With These Fun Facts

- There is the same amount of water on Earth as there was when the Earth was formed. The water from your faucet could contain molecules that dinosaurs drank.
- Water is composed of two elements, Hydrogen and Oxygen.
 $2 \text{ Hydrogen} + 1 \text{ Oxygen} = \text{H}_2\text{O}$.
- Nearly 97% of the world's water is salty or otherwise undrinkable. Another 2% is locked in ice caps and glaciers. That leaves just 1% for all of humanity's needs — all its agricultural, residential, manufacturing, community, and personal needs.
- Water regulates the Earth's temperature. It also regulates the temperature of the human body, carries nutrients and oxygen to cells, cushions joints, protects organs and tissues, and removes wastes.
- 75% of the human brain is water and 75% of a living tree is water.
- A person can live about a month without food, but only about a week without water.
- Water is part of a deeply interconnected system. What we pour on the ground ends up in our water, and what we spew into the sky ends up in our water.
- The average total home water use for each person in the U.S. is about 50 gallons a day.

Source: water.epa.gov

Private Well Permits

Property owners in the City of Wausau are required to have a permit for wells on their property. Wells that do not meet code requirements or that are not operational must be properly abandoned.

The procedure for obtaining a permit has changed in response to changes in the Wisconsin Administrative Code. To obtain or renew a well permit the property owner must submit an application form, an inspection report from a licensed well driller or pump installer certifying that the well is in compliance, a passing bacteria test, and a \$15 fee.

Wells that are not in use must be properly abandoned by a licensed well driller or pump installer. DO NOT attempt to fill a well yourself as it is very expensive to remove unapproved materials from the well casing.

Please contact Wausau Water Works at 715-261-7262 if you need an application for a well permit or information on well abandonment.

Questions About This Water Report?

If you have questions regarding this water quality report, or concerns about your water, please contact Brad Marquardt, Director of Public Works and Utilities at 715-261-6745 or Dick Boers, Drinking Water Superintendent at 715-261-7286.

If you'd like to learn more about Wausau Water Works visit our website at www.ci.wausau.wi.us/Departments/WausauWaterWorks.aspx.

Utility Commission Meets Monthly

The Wausau Water Works Commission typically meets the first Tuesday of each month at 1:30 p.m. in City Hall. (some exceptions do apply).

If you'd like to learn more about Wausau Water Works, please feel free to attend any of our regularly scheduled Commission meetings. If you wish to have an item placed on the agenda for Commission consideration, please contact Lori Wunsch at 715-261-6742 two weeks prior to the next scheduled meeting.

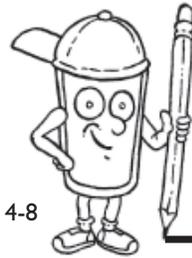
Meeting agendas and minutes of prior meetings are available on the City of Wausau website at www.ci.wausau.wi.us.

Utility Security Starts on the Home Front

Providing safe drinking water is very important to Wausau Water Works. Security of our drinking water and wastewater systems remains a top priority nationwide, and tampering with water supply systems is considered a Federal offense.

Wausau Water Works has put numerous security measures in place to avoid contamination or disruption of service for our customers. Residents who live around remote facilities are reminded that they can also help by keeping their eyes and ears alert to suspicious activities.

Although major terrorist attacks seem unlikely for communities like Wausau, vandalism or tampering can occur just the same. If you notice any suspicious behavior, please do not hesitate to contact us at 715-261-6530 or the police department.



4-8

Word Scramble

Put the letters in the right order to complete the sentence!

All living things need _____ to live.
t a w e r

When water evaporates, it travels into the air and becomes part of a _____.
d l o c u

Less than 1% of all the water on the earth is _____ water.
s e f r h

We _____ water in the liquid form.
i k r d n

Check for leaks and save hundreds of _____ of water a day.
a l l o g n s

You'll save water by taking a quick _____.
h o w s e r

Wash bikes and cars with a _____ and sponge instead of a running hose.
k e c b u t

Ask your _____ to look for ways to save water.
m f a i y l

Source: water.epa.gov



Office of Water (4606M) • EPA 816-F-04-024 • 06/2004 • www.epa.gov/safewater



Embarrassing moments in the life of a water drinker

Waiting a week to fix a leak

Assume little leaks only waste a little water? You can lose up to 200 gallons of water a day from a leaking toilet. And a faucet can drip 604,800 drops while you are waiting.

Watering your lawn at high noon

Caught with your sprinkler on? The hot sun will evaporate the water your lawn needs. Better water early in the day.

Source: water.epa.gov