



WAUSAU WATERWORKS

FOR YOU!

Volume 14, No. 3

Summer 2011



Wastewater Treatment Plant Upgrades Underway

The summer construction season is well underway at Wausau's Wastewater Treatment Plant. Ghidorzi Construction has poured the foundation and floor slab for the new equipment room addition and the gas scrubbing, microturbine, and blower equipment has arrived and is ready to install. The new equipment will reduce the amount of electricity that we use and make more efficient use of the methane we produce in processing our sludge.

The clarifier reconstruction work has been awarded to Staab Construction of Marshfield, Wisconsin. Mechanical units that have been operating 24/7 since 1968 will be replaced and the concrete basins will be repaired. The reconstructed clarifiers will help us improve the quality of the water we discharge and continue to meet WDNR limits for total suspended solids, biological oxygen demand, and other parameters.

Utility staff are also reviewing proposals for new bar screen equipment with Becher Hoppe Engineers to select the best units with respect to performance and cost. The installation will be bid out later this summer. The bar

screens are the first process in treating the wastewater and the new equipment will remove more solid material and make subsequent processes more efficient.

This work is expensive, but necessary. We are looking forward to getting these projects on-line so that we can do an even better job of serving our customers and protecting the environment.

2010 - Another Year of Excellent Water Quality!



Wausau Water Works is proud to present this year's Water Quality Report, and even more proud to announce that our test results for 2010 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.

You might ask "why do they 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 the substances that are in your 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!

Questions About this 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.





Professor Faucet's Tips on Cross Connections

Protecting the safety of our drinking water requires vigilance from the time it is pumped out of the ground until it is consumed at the tap. Wausau Water Works monitors the water from the wells, at the treatment plant, and throughout hundreds of miles of water mains and hundreds of thousands of gallons of water storage reservoirs to provide a safe and reliable water supply. But, that is not enough. Your drinking water can be contaminated in your own home or business by something called a cross connection.

A cross connection can be defined as any connection that can allow non-potable water into the City water supply under any circumstances. The water supply system can lose pressure because of a water main break or a loss of power. Even in those rare cases, the plumbing system in your building should protect your drinking water from becoming contaminated. That is why hose bibs have anti-siphon devices and toilet tanks need to have ASSE 1002 approved tank fill valves to prevent the possibility of contaminated water flowing back towards the water mains.

Boilers and many other systems can be pressurized and need to be protected by backflow preventers and other devices. Businesses and industries can have many systems that need to be protected and a plumber or other professional needs to determine how that is done.

The Wisconsin Department of Natural Resources (WDNR) and Wausau Municipal Codes require inspecting homes and businesses for cross connections. Single family residences

are surveyed on a ten year schedule when water meters are changed out. Please take a few minutes to help answer questions our technicians may have so they can complete this process efficiently. It is also very important that homeowners use licensed plumbers for repairs or modifications so that plumbing remains code compliant.

Businesses are being asked to retain a plumber to complete a cross connection inspection every two years. Those businesses that only have fixtures similar to a private residence can be switched to a residential schedule after the initial inspection.

If you have any questions regarding cross connections or the inspections, please call the Meter/Distribution shop at 715-261-7265 or the City of Wausau Plumbing Inspector at 715-261-6785.

Before You Dig Call 811-Diggers Hotline

With the long Wisconsin winters, summers kindle the desire to be outdoors, whether it's sitting on our deck, playing with the kids and dog in our backyard or planting trees. It's also the time of year that construction projects to build those decks, install fences and plant trees occurs. Homeowners should always remember to call Diggers Hotline at 811 before doing any type of digging. It's important to identify where any buried pipes or wires are located prior to digging that first shovel full of dirt.

There is no charge to the homeowner to put in a locate request which is then relayed to water, sewer, storm sewer, cable, electric, gas and telephone utilities who come out and locate their buried services. You do need to plan accordingly however, allowing 3 business days after the day you call Diggers Hotline for the

utilities to do the locates. Although we try to accommodate earlier requests, they cannot be guaranteed as our other work and emergencies may need to take precedence. During peak times from spring to fall, utilities get many, many requests for locates.

Although bury depths vary depending on the type of utility, water and sewer pipes are normally below the frost line, anywhere from 5 to 7 feet deep. Please be aware that only mains in the street and the utility side of laterals (to the shutoff valve in the boulevard area) are located by our staff. Laterals in the yards themselves, and into the homes were privately installed, and the utility does not maintain record of their locations.



Know what's below.
Call before you dig.

Please Do Not Flush

Residents and businesses are reminded that proper disposal of items such as baby or feminine hygiene wipes, diapers, rags, dusting or floor cleaning wipes, etc. should **NOT** be flushed down the toilet. Even though the packaging may state that the product is biodegradable, it can cause blockages in service laterals or mains which can lead to sewer back ups and plug pumps at the treatment plant. Grease also should not be disposed of down drains. Wipe grease from pans prior to washing.

Please use your toilet only for its' intended purpose and place other items into garbage receptacles.

Routine Water Quality Testing....

The Water Quality Test Results shown on pages 4-5 only lists substances which are required to be tested and are 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!

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 manmade. 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**.

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)**.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. As a result of materials used in your home's plumbing, it is possible that lead levels at your home may be higher than at other homes in the community. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested, or you can flush your tap for 30 seconds to 2 minutes before using tap water. Again, additional information is available from the Safe Drinking Water Hotline at **1-800-426-4791**. Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced.

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.

Sewer Backup Insurance

Property owners are urged to contact their homeowner's insurance agent to add sewer backup insurance as a rider to their policies, especially if you have an improved basement. **Sewer backups can occur for a variety of reasons, but that does not mean there is liability on the part of the Utility.**

Talk with your agent to be sure your valuables are fully protected, and **never** store valuable items on the floor of your basement.



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 (Last sample date 08/31/2010)	ppb	60	60	16 (Range 2-16)	NO 	By-product of drinking water chlorination
TTHM (Last sample date 08/31/2010)	ppb	0	80	9.7 (Range 7.0-9.7)	NO 	By-product of drinking water chlorination

Inorganic Contaminants

Antimony Total (Last sample date 09/11/2008)	ppb	6	6	.2 (Range ND-.2)	NO 	Discharge from petroleum refineries; fire retardants; ceramics, electronics, solder
Barium (Last sample date 09/11/2008)	ppm	2	2	.004	NO 	Erosion of natural deposits
Cadmium (Last sample date 09/11/2008)	ppb	5	5	.3 (Range .2-.3)	NO 	Corrosion of galvanized pipes; erosion of natural deposits
Copper (Last sample date 06/27/2008)	ppm	1.3	AL=1.3	0.078 (0 of 30 results were above the action level)	NO 	Corrosion of household plumbing systems
Cyanide (Last sample date 11/05/2008)	ppb	200	200	19 (Range 19)	NO 	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride (Last sample date 12/01/2010)	ppm	4	4	1.3 (Range 1.2-1.3)	NO 	Erosion of natural deposits; water additive which promotes strong teeth
Lead (Last sample date 06/19/2008)	ppb	0	AL=15	9.18 (2 of 30 results were above the action level)	NO * 	Corrosion of service lines and household plumbing systems
Nickel (Last sample date 09/11/2008)	ppb		100	1.5 (Range 1.5)	NO 	Nickel occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products

* 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)

Nitrate (N03-N) (Last sample date 08/31/2010)	ppm	10	10	.87 (Range .50-.87)	NO 	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (N02-N) (Last sample date 09/11/2008)	ppm	1	1	.009 (Range .007-.009)	NO 	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (Last sample date 09/11/2008)	ppm	N/A	N/A	13 (Range 10-13)	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

Bromodichloromethane (Last sample date 08/31/2010)	ppb	N/A	N/A	.75 (Range .52-.75)	NO 	By-product of drinking water chlorination
Chloroform (Last sample date 08/31/2010)	ppb	N/A	N/A	8.90 (Range 6.43-8.90)	NO 	By-product of drinking water chlorination
Chloromethane (Methylchloride) (Last sample date 12/10/2010)	ppm	N/A	N/A	.46 (Range ND-1.82)	NO 	By-product of drinking water chlorination
Sulfate (Last sample date 09/10/2008)	ppm	N/A	N/A	15 (Range 11-15)	NO 	Naturally occurring

Volatile Organic Contaminants

Tetrachloroethylene (Last sample date 12/10/2010)	ppb	0	5	.1 (Range ND-.5)	NO 	Leaching from PVC pipes; discharge from factories and dry cleaners
Xylenes, Total (Last sample date 12/10/2010)	ppm	10	10	.0005 (Range ND-.20)	NO 	Discharge from petroleum factories; discharge from chemical factories

Data presented in these tables represent the most current test results. Some tests are performed on a 3 year cycle.

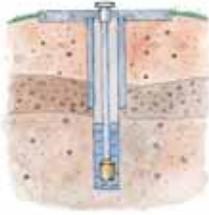
SEE PAGE 6 FOR DEFINITION OF TERMS

The tables on these two pages display the number of contaminants that were required to be tested in the last five years. The Drinking Water Report may contact up to 5 years worth of water quality results. If a system tests annually, or more frequently, the results from the most recent year are shown on the Drinking Water Report. If testing is done less frequently, the results shown on the Drinking Water Report are from the past 5 years.

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.

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.

What Do These Terms Mean?

MCL, ppm, ppb, pCi/l? What do the terms in the table on pages 4-5 mean?

The information provided in the tables on pages 4 and 5 contain many terms and abbreviations that may be unfamiliar. To help you better understand, we've provided the following definitions.

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 millions corresponds to one minute in two years or a single penny in \$10,000.

PPB - Parts Per Billion or Micrograms per liter - 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 - a 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.

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 any item placed on the agenda for Commission consideration, please contact Deb Geier at 715-261-6533 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.

Why Drink Water?

- 1) It's essential to the human body's survival. A person can live for about a month without food, but only about a week without water.
- 2) It helps maintain healthy body weight by increasing metabolism and regulating appetite.
- 3) It leads to increased energy levels. Mild dehydration is the most common cause of daytime fatigue.
- 4) It can help reduce joint and/or back pain.
- 5) It leads to overall greater health by flushing out wastes and bacteria that can cause disease.
- 6) It can prevent and alleviate headaches.
- 7) It aids in the digestion process.

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.

Number of Contaminants Required to be tested: The table below displays the number of contaminants that were required to be tested in the last five years. The Water Quality Report may contain up to five years worth of water quality results. If a water system tests annually, or more frequently, the results from the most recent year are shown in the tables on pages 4-5. If testing is done less frequently, the results shown are from the past five years.

Contaminant Group	No. of Contaminants
Disinfection By-products	2
Inorganic Contaminants	17
Microbiological Contaminants	3
Radioactive Contaminants	3
Synthetic Organic Contaminants including Pesticides and Herbicides	25
Unregulated Contaminants	34
Volatile Organic Contaminants	20

Lead Pipes Affect Water Quality

The City of Wausau has many older homes that were constructed when lead plumbing materials were commonly used. Lead pipes are sometimes found in homes built before about 1930, most homes built before about 1965 have lead service lines between the house and the water main, and lead solder was used with copper pipes up to 1984. Even today, lead can be found in some new brass fixtures.

Lead is not found in our groundwater or water in the City distribution

main but is absorbed from lead service lines and lead plumbing materials. We recommend that residents with homes built before 1984 flush their waterline before using water for cooking or drinking. It takes time for the water to absorb lead so the idea is to use water that has not been in contact with lead plumbing materials for more than a few hours.

Adequately flushing the water line can require running 1 to 2 gallons of water to draw fresh water from the water main. It would not be necessary to run as much water if the home does not have a lead service line or if water has recently been used elsewhere in the house, to flush a toilet or wash clothes for example.

Wausau Water Works continues to monitor the corrosion potential of our drinking water to minimize the amount of lead absorbed from household plumbing.

Call 715-261-6530 if you have questions regarding lead in your drinking water.

Strange But True

- ◆ 884 million people lack access to safe water supplies; approximately one in eight people.
- ◆ An American taking a five-minute shower will use more water than a typical person in a developing country uses in a whole day.
- ◆ More people in the world have cell phones than access to a toilet.
- ◆ Only 62% of the world's population has access to improved sanitation - defined as sanitation facility that ensures hygienic separation of human excreta from human contact.

(Source: <http://water.org/learn-about-the-water-crisis/facts/>)

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 715-261-6536 if you need an application for a well permit or information on well abandonment.

Trivia for the Throne

- The first toilet stall in a public washroom is the least likely to be used. It is also the cleanest.
- The flushing toilet was invented by Sir John Harrington in 1596 for Queen Elizabeth I. He was originally barred from the Royal Court for spreading smutty stories, but after his invention, he was allowed back.
- Over \$100,000 was spent on a study to determine whether most people put their toilet paper on the holder with the flap in front or behind; the answer: three out of four people



(Source: <http://dawgsdrainservice.com>)

have the flap in the front.

- The toilet is flushed more times during the Super Bowl halftime than at any other time during the year.
- Gallons per flush over the years: 1920s to 1950s = 7 gallons per flush; 1960s to 1970s = 5 gallons per flush; 1982 = 3.5 gallons per flush; 1994 = 1.6 gallons per flush; 2010 = 1.28 gallons per flush.
- The film “*Psycho*” was the first movie to show a toilet flushing - the scene caused a rash of complaints about indecency.



Dlain ntawv tshabxuu nua! Iug tseemceeb heev nyob rua huv hws has txug cov dlej mej haus. Kuas it tub pab txhais rua koj, los nrug ib tug kws pab Iug tham. Este informe contiene informacion importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

IMPORTANT WATER QUALITY INFORMATION ENCLOSED



407 Grant Street - Wausau, WI 54403-4783