

WATER QUALITY REPORT 2023

issued April 2024



City of Alpena Water Utility operated by



Photo Credit:
Alpena Area CVB

The City of Alpena Water Treatment Plant was constructed in 1922 and has since been designated an American Water Landmark by the American Water Works Institute. The WTP has undergone numerous expansions and upgrades over the years; including an additional finished water storage reservoir in 1935, increased high service pumping capacity in 1953, and significant improvements to pretreatment, sedimentation and filtration in 1965. Upgrades and improvements are continuous due to infrastructure age, technological advancements in the water industry, changing customer base as well as increasingly stringent regulations. Our community is fortunate to have Lake Huron as a wonderful source of drinking water, however the lake is subject to frequent rapid water quality changes which pose difficult treatment solutions. The City is dedicated to meeting these challenges while continuing to provide our community with high quality safe drinking water for generations to come.

More information about the Water Treatment Plant on the City of Alpena website www.alpena.mi.us/

DEAR CUSTOMER,

We are pleased to provide you with this Annual Water Quality Report, the water provided to the City of Alpena during the past year meets or exceeds established water quality standards. This report covers the drinking water quality for the City of Alpena for the 2023 calendar year. This information is a snapshot of the quality of the water that we provided to you in 2023.

This report includes details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and State of Michigan Department of Environment Great Lakes & Energy (EGLE) standards. Under the Safe Drinking Water Act (SDWA), the EPA sets the national limits for hundreds of substances in drinking water and specifies treatment methods that water systems must utilize to remove these substances. Similarly, the United States Food and Drug Administration (USFDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Utilities continually monitor the water they produce for contaminants and report results directly to their state regulatory agency, which in turn reports to the EPA if any are detected in the drinking water. EPA uses this data to ensure that consumers are receiving clean water and verify that states are enforcing the laws that regulate drinking water.

The City of Alpena Water Utility, Public Water Supply ID 0160, is overseen by the Alpena Municipal Council and operated by Veolia, which provides day to day management of the water system. We work to provide you with water that meets and often exceeds state and federal standards.

We regularly test water samples to ensure that your water continuously meets the SDWA standards. All results are on file with the Michigan Department of Environment Great Lakes & Energy (EGLE). EGLE requires water suppliers to provide this Consumer Confidence Report (CCR) to customers each year.

The utility welcomes this annual reporting requirement and views it as an opportunity to inform customers about the high quality drinking water being supplied to them. Please review the CCR carefully as it contains important information about your drinking water. We hope that you find it meaningful and informative.

Correspondence may be directed to the following personnel:

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Steve Shultz – Alpena City Engineer	(989)354-1732	steves@alpena.mi.us

ONLINE INFORMATION

Water quality reports going back to 1998 can be found on the City of Alpena web site (www.alpena.mi.us). Additionally, the EPA Office of Water (water.epa.gov) web site provides a substantial amount of information on many issues relating to water resources, water conservation and public health. Other websites regarding drinking water have been provided at the end of this report.

WHERE DOES YOUR WATER COME FROM?

Surface Water from Thunder Bay Lake Huron has been the source for Alpena's water supply since 1905. Although vulnerable to changes and classified as highly sensitive to contaminant sources; current and historical sample data shows that it is of high quality. State and federal regulations have progressively become more stringent, resulting in significant improvement to Great Lakes water quality. Efforts to protect our fresh water source include a Source Water Assessment conducted by the Michigan Department of Environment Great Lakes & Energy (EGLE). The assessment identifies sources of pollution that may have a negative impact on the quality of our source water. These include local industries, businesses, major storm drainage areas plus urban and agricultural runoff from the Thunder Bay River watershed. Based on this criteria, the Intake is classified as highly sensitive. Our source water is highly susceptible to contamination, however the City of Alpena Water Treatment Plant has historically effectively treated this water to meet and exceed drinking water standards. Additionally, a Source Water Intake Protection Plan details the source of water for Alpena, possible areas of exposure to contamination throughout the entire Thunder Bay Watershed, management practices, possible alternate water sources and ways to educate our community on the importance of protecting our water resources as they pertain to our drinking water. Water is the most valuable asset our community has – let's keep it that way.

WATER PRODUCTION & TREATMENT INFORMATION

FINISHED WATER PRODUCTION DURING 2023 – includes water supplied to Alpena Township

Total yearly production – 601 million gallons

Average daily production – 1.65 million gallons

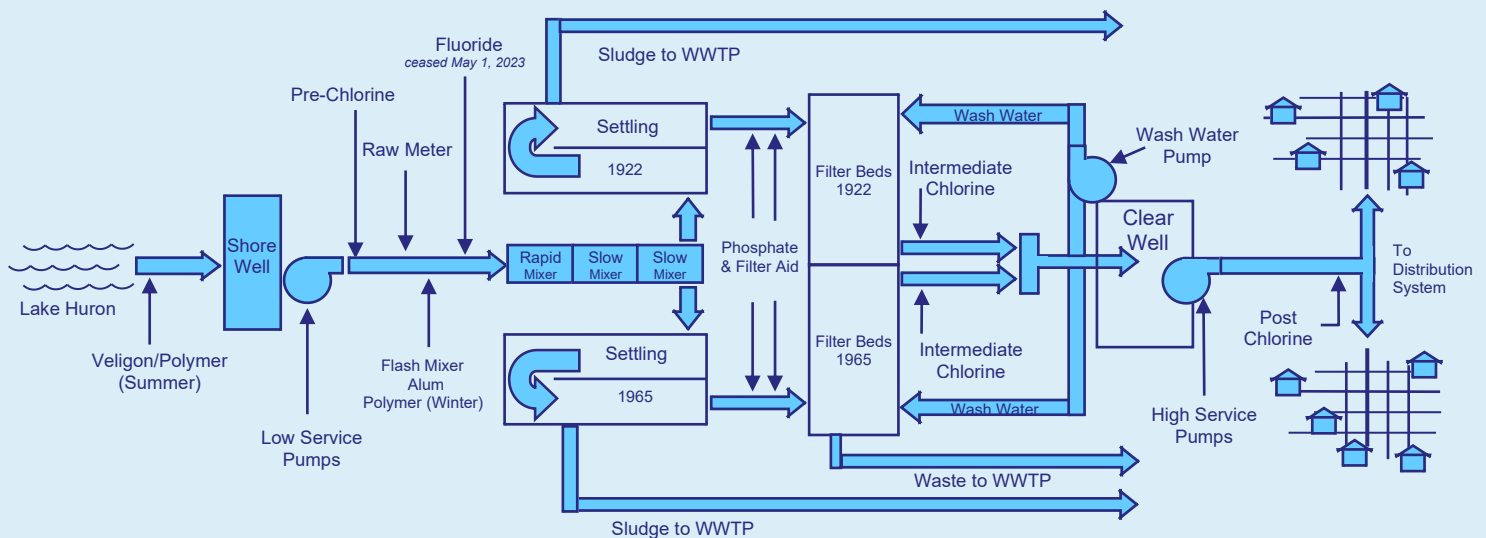
Maximum daily production – 2.49 million gallons

WATER CONSERVATION – We all share the same water, let's please use it wisely.

Water conservation measures are an important step in protecting our water supply. These measures not only reduce water usage, but can also save you money by reducing your bill. Some conservation measures you can use inside your home include: fixing leaking faucets, shower heads and toilets (a leaking toilet can waste 240 gallons of water day); washing full-loads of laundry; not disposing trash down the toilet; taking shorter showers; and watering lawns or gardens in the early morning or evening.

HOW IS YOUR WATER TREATED?

Your water is purified at the City Water Filtration Plant located near Starlight Beach. The treatment process consists of a series of steps. Raw water is drawn from Lake Huron, along the way chlorine is added for disinfection of pathogens. Alum, polymer and fluoride are then added. During 2023, fluoride addition was conducted from January through April. The City of Alpena WTP no longer adds fluoride during the treatment process as this additive is not required under the SDWA. Alum and polymer are used to remove sediment from the water. The addition of alum causes smaller particles to adhere to one another until they are heavy enough to settle to the bottom of basins, only the cleaner water continues throughout the treatment process. After settling, phosphate is added as well as filter aid if needed. Phosphate aides in filter performance and also helps prevent corrosion of pipes throughout the water system. Filter aid helps with turbidity removal during filtration. Filtration occurs when the water travels through a layer of granular activated carbon, sand, and other media. As smaller, suspended particles are removed, turbidity decreases, and clear water emerges. Chlorine is added again at this point as a final disinfectant. Chlorine is carefully monitored to maintain the required minimal dosage throughout the distribution system to ensure the microbial safety of your water. The water is then pumped through the distribution piping to water towers, and your home or business.



Alpena Water Treatment Plant process schematic

WATER QUALITY DATA –

The tables on the following pages list all the drinking water contaminants that were detected during the 2023 calendar year, unless sampled in previous years. We are required to report results of any parameter for 5 years. Not all parameters are sampled annually. EGLE allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. All of the data is representative of the water quality you are receiving, but some are more than one year old. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk.

What are PPM, PPB and PPT?

Parts per million (ppm) and parts per billion (ppb) are units used to measure the concentration of a substance in water. Here are some examples that illustrate just how small these amounts actually are.

One PPM is the same as:

- One second in 11 days
- One minute in 2 years
- One penny in \$10,000

One PPB is the same as:

- One second in 32 years
- One minute in 2000 years
- One penny in \$10,000,000

One PPT is the same as:

- One second in 32,000 years
- One minute in 2,000,000 years
- One penny in \$10,000,000,000

What are MCLG and MCL?

MCLG = Maximum Contaminant Level Goal, the level at which there is no known or expected health risk.

MCL = Maximum Contaminant Level, the highest level allowed in drinking water without a violation.

What is RAA?

Running Annual Average = calculated average based on the average of samples taken during the most recent 12-month period

Terms and Definitions –

Additional definitions for terms found throughout these tables are located at the end of this report.

SUBSTANCES ARE EXPECTED TO BE IN DRINKING WATER

The sources of drinking 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 materials. Substances are also added from animal and human activity. 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 EPA Safe Drinking Water Hotline (1-800-426-4791) or by visiting the websites provided in this report.

The sources of drinking water (both tap water and bottled water) include rivers, lakes streams, ponds, reservoirs, springs, and wells. Our water comes from Lake Huron. 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:

- Microbial contaminants such as viruses and bacteria which 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 also 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 agricultural, urban storm water runoff and residential use.
- Organic chemical contaminants including synthetic and volatile organic chemicals, which are by-products or industrial processes and petroleum production 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 activities.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Similarly, the United States Food & Drug Administration (USFDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

DRINKING WATER AND PEOPLE WITH WEAKENED IMMUNE SYSTEMS

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 microbial contaminants are available from the EPA Safe Drinking Water Hotline via phone at (800-426-4791).

PRIMARY REGULATED STANDARDS –

Required sampling for substances which have federally enforced regulations, these substances are directly related to the safety of drinking water. Sample location can range from within the Plant to select services in the Distribution System.

Plant Tap	Sample Date	MCLG	MCL	Result	Range of all Results	Violation	Typical Source of Contaminant
Nitrate (ppm)	5/17/2023	10	10	0.21	N/A	No	Erosion of natural deposits, runoff from fertilizer, septic leakage
Barium (ppm)	8/12/2020	2	2	0.016	N/A	No	Discharge from drilling wastes and metal refineries; erosion of natural deposits
Cadmium (ppb)	8/12/2020	5	5	0.23	N/A	No	Corrosion of galvanized pipes; erosion of natural deposits; discharge from industrial; runoff from waste batteries and paints
Chromium (ppb)	8/12/2020	100	100	1.1	N/A	No	Discharge from steel and pulp mills; erosion of natural deposits
Selenium (ppb)	8/12/2020	50	50	3.7	N/A	No	Discharge from petroleum and metal refineries, and mining operations; erosion of natural deposits
Distribution Copper & Lead	Sample Date	MCLG	AL	Your Water 90 th Percentile	Range of all Results	Violation	Typical Source of Contaminant
Copper (ppm)	2022	1.3	1.3	0.1	0.0 – 0.1	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2022	0	15	0	0 – 1	No	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits
Distribution Disinfectant Residual	Sample Date	MRDLG	MRDL	Quarterly RAA	Range of all Results	Violation	Typical Source of Contaminant
Chlorine (ppm)	10/month	4.0	4.0	0.83	0.55 – 1.15	No	Disinfectant added to control microbes
Distribution TOC Removal	Sample Date	MCLG	MCL	Lowest Removal	Removal Range	Violation	Typical Source of Contaminant
TOC Removal Percentage	Quarterly	N/A	TT	28% removal, 25% required	28% – 63%	No	Naturally present in the environment
Distribution Disinfectant By-Products	Sample Date	MCLG	MCL	Highest LRAA	Range of all Results	Violation	Typical Source of Contaminant
TTHMs (ppb)	Quarterly	N/A	80	44.8	8.8 – 89	No	Disinfection by-product
HAA5 (ppb)	Quarterly	N/A	60	19.1	2.3 – 45	No	Disinfection by-product
Plant Filtered Water Turbidity	Sample Date	MCLG	MCL/TT	Highest Result	Range of all Results	Violation	Typical Source of Contaminant
NTU	Daily	N/A	TT = 1	0.25	0.01 – 0.25	No	Soil run-off
% of samples <0.3 NTU	Daily	N/A	95%	100.0 %	N/A	No	Soil run-off
Distribution Microbial Contaminants	Sample Date	MCLG	MCL	Detected	Range of all Results	Violation	Typical Source of Contaminant
Total Coliform total number of positive samples	10/month	N/A	TT	0	N/A	No	Naturally present in environment
<i>E.Coli</i> total number of positive samples	10/month	0	See note below	0	N/A	No	Human and animal fecal waste

E.coli MCL violation occurs if: (1) a routine and repeat samples are total coliform positive and either is *E.coli* positive, or (2) the supply fails to take all required repeat samples following *E.coli* positive routine samples, or (3) the supply fails to analyze total coliform positive repeat sample for *E.coli*.

PRIMARY REGULATED STANDARDS with non-detectable amounts –

Required sampling for substances which have federally enforced regulations, these substances are directly related to the safety of drinking water. Sample locations can range from within the Treatment Plant to select services in the Distribution System. Samples with non-detectable amounts are not required to be included in this report, however the City of Alpena wishes to include them so that our customers have the most current information regarding the contaminant PFAS/PFOS.

Plant Tap Per- and polyfluoroalkyl substances (PFAS)	Sample Date	MCLG	MCL	Result	Range of all Results	Violation	Typical Source of Contaminant
Hexafluoropropylene oxide dimer acid (HFPO-DA) (ppt)	5/17/2023	N/A	370	ND	ND	No	Discharge/waste from industrial facilities utilizing the Gen X chemical process.
Perfluorobutane sulfonic acid (PFBS) (ppt)	5/17/2023	N/A	420	ND	ND	No	Discharge/waste from industrial facilities; stain-resistant treatments
Perfluorohexane sulfonic acid (PFHxS) (ppt)	5/17/2023	N/A	51	ND	ND	No	Firefighting foam; discharge and waste from industrial facilities
Perfluorohexanoic acid (PFHxA) (ppt)	5/17/2023	N/A	400,000	ND	ND	No	Firefighting foam; discharge and waste from industrial facilities
Perfluorononanoic acid (PFNA) (ppt)	5/17/2023	N/A	6	ND	ND	No	Discharge and waste from industrial facilities; breakdown of precursor compounds
Perfluorooctane sulfonic acid (PFOS) (ppt)	5/17/2023	N/A	16	ND	ND	No	Firefighting foam; discharge from electroplating facilities; discharge and waste from industrial facilities
Perfluorooctanic acid (PFOA) (ppt)	5/17/2023	N/A	8	ND	ND	No	Discharge and waste from industrial facilities; stain-resistant treatments



During 2023, the City of Alpena Water Plant contracted services to investigate and remove obstructions from the intake into the Plant. The intake is where source water from Lake Huron is drawn into the plant. During the project old sample lines and feed lines inside the intake were found to be damaged causing a blockage. A future project is scheduled to replace these lines, as well as other work to ensure the intake serves the plant for years to come.

ADDITIONAL MONITORING –

Required and non-required sampling for substances that do not have federally enforced regulations. These are goals and suggested levels which are not enforceable. These substances are not directly related to your health. They reflect aesthetic qualities such as taste, odor and appearance.

Sampled at Plant Tap	Sample Date	MCLG	SMCL	Average Result	Range of all Results	Violation	Typical Source of Contaminant
Sodium (ppm)	5/17/2023	N/A	N/A	8.4	N/A	No	Erosion of natural deposits
Chloride (ppm)	5/17/2023	N/A	250	12	N/A	No	Erosion of natural deposits
Sulfate (ppm)	5/17/2023	N/A	250	32	N/A	No	Naturally occurring mineral
Nickel (ppm)	8/12/2020	N/A	N/A	0.0028	N/A	No	Leaching from metals in contact with drinking water, such as pipes and fittings; naturally occurring element
Fluoride (ppm)	Daily (Jan-April)	4	4	0.76	0.45 – 0.99	No	Erosion of natural deposits, water additive to protect teeth.
Chlorine (ppm)	Daily	4.0	4.0	1.16	0.96 – 1.38	No	Disinfectant added to control microbes
pH	Daily	N/A	6.5 – 8.5	7.2	6.9 – 8.2	No	Naturally occurring elements
Hardness CaCO ₃ (ppm)	Daily	N/A	N/A	112	90 – 150	No	Naturally occurring elements
Alkalinity CaCO ₃ (ppm)	Daily	N/A	N/A	81	60 – 102	No	Naturally occurring elements
Sampled in Distribution	Sample Date	MCLG	SMCL	Average Result	Range of all Results	Violation	Typical Source of Contaminant
Chloride (ppm)	2019	N/A	250	10.2	9.3 – 11.8	No	Erosion of natural deposits
Sulfate (ppm)	2019	N/A	250	25	8 - 38	No	Naturally occurring mineral
Orthophosphate (ppm)	2019	N/A	N/A	0.37	0.24 – 0.67	No	Water additive for corrosion control
Alkalinity CaCO ₃ (ppm)	2019	N/A	N/A	77	70 - 82	No	Naturally occurring elements
Fluoride (ppm)	10/month (Jan-April)	4	4	0.72	0.56 – 0.89	No	Erosion of natural deposits, water additive to protect teeth.
pH	10/month	N/A	6.5 – 8.5	7.3	7.0 – 7.9	No	Naturally occurring elements

UNREGULATED CONTAMINANTS (UCMR) –

Required sampling for substances which the EPA requires monitoring but has yet to establish standards. Monitoring helps the EPA determine where these contaminants occur and whether regulation is warranted in the future. These monitoring events are known as unregulated contaminant monitoring rule monitoring (UCMR events).

The UCMR5 event was conducted during the year which involved quarterly sample collection and analysis of 29 Perfluorinated Chemicals using EPA Methods 533 and 537.1 and Lithium using Method 200.7. All results were non-detect for these unregulated contaminants, meaning they were not found in your drinking water.

Detections from previous UCMR events are summarized in the table below.

Sampled at Plant Tap	Sample Date	MCLG	MCL	Average Result	Range of all Results	Typical Source of Contaminant
Manganese (ppb)	2/3/2020 5/13/2020	N/A	N/A	0.58	0.41 – 0.74	Naturally occurring mineral
Sampled in Distribution	Sample Date	MCLG	MCL	Average Result	Range of all Results	Typical Source of Contaminant
HAA6 (ppb)	2/3/2020 5/13/2020	N/A	N/A	4.3	3.9 – 4.8	Disinfection by-product
HAA9 (ppb)	2/3/2020 5/13/2020	N/A	N/A	20.3	16.2 – 23.6	Disinfection by-product

Additional information about unregulated contaminants can be found here: www.epa.gov/dwucmr and www.dhd4.org

The City of Alpena took part in the UCMR5 monitoring event during 2023, the results of this sampling can be obtained on the EPA's national database: www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule or by calling (989) 356-0757.

PLEASE DO NOT FLUSH ANYTHING EXCEPT TOILET PAPER

WHAT IS F.O.G.?

FOG stands for Fats, Oils and Grease. If not disposed of properly, it can cause sewer system blockages. FOG sticks to the walls of your plumbing and the sewer system and can build up over time. Eventually, it can completely block your plumbing or the sewer system.

HOW DOES F.O.G. GET INTO YOUR SYSTEM?

FOG enters the sewer system through **YOUR** plumbing. Common methods of entry include pouring FOG down the kitchen sink or toilet and using a garbage disposal to dispose of food scraps. The garbage disposal does not eliminate FOG; it merely chops it up into smaller pieces.

Once the FOG builds up, blockages in your plumbing or the sewer system can result in sewer overflows.

FOG related overflows could result in property damage, environmental damage and civil penalties and fines.

WHAT CAN YOU DO TO HELP?

DO:

- Allow FOG to cool. Pour any liquids into a sealable, disposable container and place in trash.
- Scrape any solid FOG and food particles into the trash.
- Rinse dishes and pans with cold water before putting them in the dishwasher.
- Cover kitchen sinks with catch basket and empty debris into garbage cans as needed.

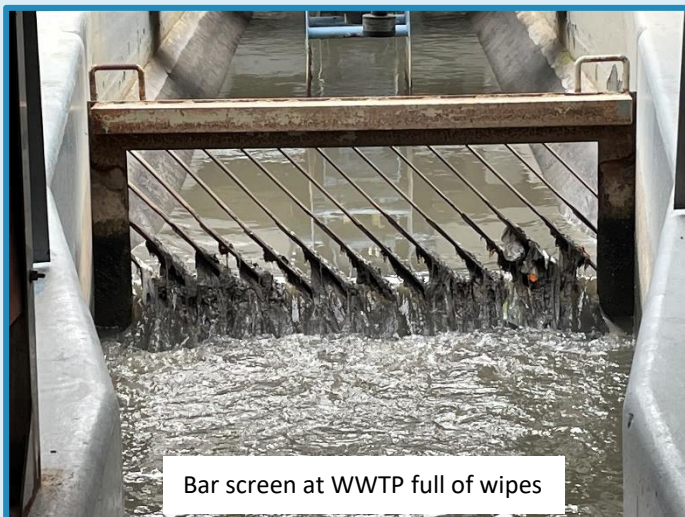
DO NOT:

- Do not pour FOG down the drain.
- Do not put food scraps down the drain.
- Do not pour FOG into the garbage disposal.
- Do not rinse off oil and grease with hot water.

VEOLIA

Water systems were never intended to remove disposable disinfectant wipes, despite what manufacture labeling suggests. Wastewater plants like ours cannot efficiently remove them from the process because they do not break down and disintegrate in water like toilet paper. Throughout the nation, including Alpena, disposable wipes and other materials not intended to be in the system cause a great deal of damage to critical equipment such as lift stations, pumps, screens, and pipes. This results in expensive maintenance and replacement of this equipment and can lead to system overflows into our homes. The City of Alpena reminds all customers that they should not use their toilets as garbage cans.

Please only flush the 3 P's - pee, poop and toilet paper.



LEAD AND YOUR DRINKING WATER

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. The City of Alpena 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 have a lead service line, it is recommended that you run your water for at least 5 minutes to flush water from both your home plumbing and the lead service line. 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 EPA Safe Drinking Water Hotline 1–800 426-4791 or online at www.epa.gov/ground-water-and-drinking-water

Infants and children who drink water containing lead 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.

Sources of Lead

Lead is a common metal found in the environment. The main sources of lead exposure are lead-based paint and lead-contaminated dust or soil, and some plumbing materials. Lead can also be found in some pottery, fixtures, food and cosmetics.

The EPA estimates that 10-20 percent of a person's potential exposure to lead may come from drinking water with the remaining being caused by other sources. Infants who consume mostly formula mixed with lead-containing water can receive 40-60 percent of their exposure to lead from drinking water.

There is no detectable lead in the City of Alpena drinking water when it leaves the water plant. Water is naturally corrosive, which is why phosphate is added during treatment to help reduce corrosion. However, water may accumulate microscopic amounts of lead if it sits idle for extended periods of time in pipes, plumbing, or fixtures that contain lead. Lead levels in drinking water are likely to be highest in homes with lead service lines connecting the home to the water main, in homes with lead indoor plumbing or lead solder joints, and in homes that have brass faucets or other fixtures – even fixtures certified as “lead free” can contain up to 8% lead.

The City of Alpena Water System is comprised of 4,665 service lines. Of these, 7 are known to be lead, 476 are composed of galvanized materials presumed to contain lead, and 3,827 are of unknown material which may or may not potentially be lead containing material. The City of Alpena most recently sampled for Lead and Copper from homes throughout the System in the summer of 2022. In 2022 the 90th Percentile lead result was 0.0 parts per billion (ppb), none of sample sites exceeded the Action Level of 15 ppb. The City has been notified by EGLE that your water is compliant with the Lead and Copper Rule and Safe Drinking Water Act.

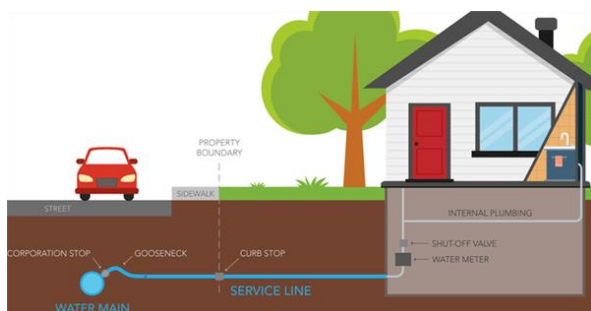
Steps you can take to reduce lead in your drinking water

- Run your water to flush out the lead. Run your water for 15 seconds to 2 minutes until it becomes cold before using
- Always use cold water for drinking, cooking and preparing food or baby formula
- Do not boil water to remove lead – this will not reduce lead
- Periodically clean and remove your faucet screen/aerator
- You may consider investing in a home water treatment device - maintain the device to manufacturer recommendations
- Identify and replace plumbing fixtures and service lines containing lead. Products sold after January 4, 2004 must contain lower lead levels
- Have a licensed electrician check your wiring to ensure it is not attached to your water service line. This can accelerate corrosion of your plumbing, increasing lead exposure if present in your plumbing.
- Test your water for lead by a certified laboratory.

What do lead service lines look like?

The water mains in our distribution system contain no lead, however some service lines especially in those serving homes built between 1930 and 1960 may contain lead. Below is guidance from the EPA to help identify lead pipe.

- Lead service lines are generally a dull gray color and are very soft. You can identify them easily by carefully scratching with a key – do not use a sharp instrument and take care not to puncture a hole in your pipe. If the pipe is lead, the area scratched will turn bright silver color.
- NOTE: galvanized pipe may also be a dull grey color. Apply a strong magnet to the pipe – if it sticks it is galvanized, not lead.
- In the past, lead service lines have been connected to residential plumbing using solder and have a characteristic “bulb” at the end, a compression fitting, or other connectors made of galvanized iron or brass or bronze.
- **If you think you may have a Lead Service Line please contact the Water Utility at 354-1400 or 356-0757.**



CROSS CONNECTIONS – unsafe water from outside the water system can potentially enter our drinking water

A cross connection is an unprotected direct or potential connection between drinking water piping and a contamination source. This can be as simple as garden hose submerged in a swimming pool, a bucket of detergent, or other non-potable liquid. Other sources are service lines connected to boilers, irrigation systems, or other process equipment. Under certain conditions, cross connections allow unsafe water to flow backward through piping and into the drinking water. This is called back-flow, and its caused by two types of pressure changes: back siphonage and backpressure.

Back siphonage

Back siphonage is caused by negative pressure from a vacuum in the supply piping, just as drinking through a straw draws liquid from a glass. Back siphonage can be created when there is a stoppage in the water supply due to repairs, breaks in the distribution system, or increased demand at one location such as firefighting. This can reverse the normal flow of water in the system and pull contaminants into the drinking water from unprotected cross connections inside your home or business.

Backpressure

Backpressure reverses normal system flow and occurs when downstream water pressure is greater than the pressure in the distribution system. This can occur in any pressurized system such as boilers, elevated tanks, or systems with pumps installed after the drinking water enters the building.

What can you do?

We all need to do our part to ensure that our homes have the clean water we expect each and every day. Common hazards in and around your home can contaminate your drinking water as well as your neighbors. Look around your home or business to identify areas where you might unknowingly have a cross connection – the laundry room, the garage, the utility room or your sprinkler system. It is especially important to remove outside garden hoses from buckets while conducting cleaning or work around your home. A garden hose can be extremely hazardous when left submerged in a swimming pool, a bucket, chemical sprayer or when left elevated above the outside faucet. Backflow prevention devices must be purchased and installed on all cross connections – contact a local plumbing contractor to ask about having your home checked and protected from cross connections.

These devices include:

- Air gap – a distance of 2 inches from the potentially unsafe liquid piping from the supply water
- Pressure vacuum breaker
- Double check valve assembly
- Reduced pressure principle backflow preventer.

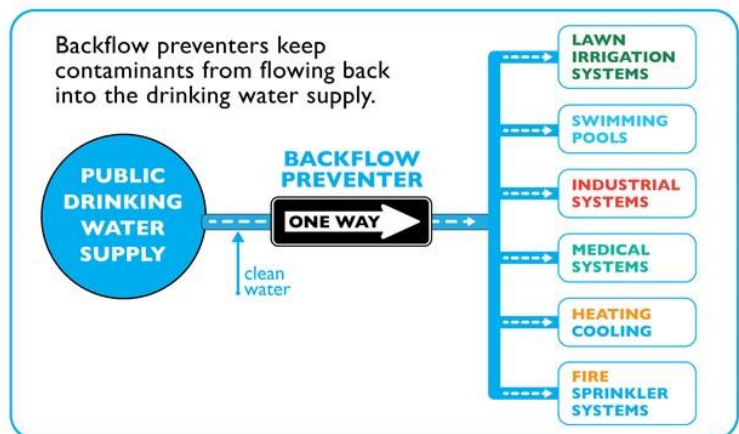
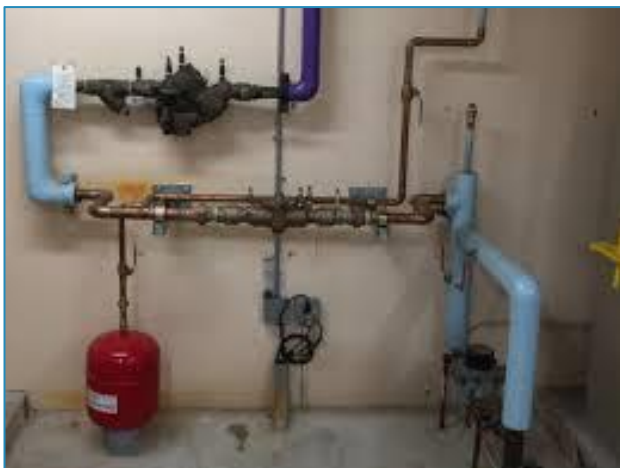
Unprotected cross connections are everyone’s responsibility

The water we all drink comes from our water plant and our water system – we all share the same water, let’s keep it safe. Additionally, EGLE and City of Alpena have approved mandatory cross connection programs in which inspections and verification can/may occur throughout the water utility system to ensure the protection of our water with respect to cross connections - this includes commercial and residential customers.

For more information on cross connections visit the EPA website below.

<https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=2000ZB8.txt>

<https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=2000262T.txt>



TERMS AND ABBREVIATIONS USED IN THIS REPORT

AL = Action Level. Concentration if exceeded, triggers treatment/process changes or other requirements.

Coliform and E. coli = bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Disease-causing microbes (pathogens) in these wastes can cause diarrhea, cramps, nausea, headaches, or other symptoms. These pathogens may pose a special health risk for infants, young children, and people with severely compromised immune systems.

Disinfection By-products = TTHMs and HAAs. By-products of water disinfection during water treatment which can form when chlorine reacts with naturally occurring materials.

Fluoridated system = Fluoride is added to the drinking water during treatment to levels beneficial to oral health.

HAA5 = Haloacetic Acids. Regulated disinfection by-products: Monobromoacetic acid, Dibromoacetic acid, Dichloroacetic acid, Monochloroacetic acid, and Trichloroacetic acid. Some people who consume HAAs in excess of MCL during their lifetime may experience increased health risks.

HAA6 = Haloacetic Acids. Unregulated disinfection by-products: Bromochloroacetic acid, Bromodichloroacetic acid, Chlorodibromoacetic acid and Tribromoacetic acid, plus Monobromoacetic acid, Dibromoacetic acid. Some people who consume HAAs in excess of MCL during their lifetime may experience increased health risks.

HAA9 = Haloacetic Acids. Unregulated disinfection by-products: includes all the haloacetic acids of HAA5 and HAA6 combined.

Highest Results = data based on the highest detection of a single sample during the monitoring year.

LRAA = Locational Running Annual Average. Calculated yearly average of all the results at specific sample site.

MCL = Maximum Contaminant Level. The highest level allowed in drinking water without violation.

MCLG = Maximum Contaminant Level Goal. The level at which there is no known or expected health risk. MCLGs allow for a margin of safety.

MRDLG = Maximum Residual Disinfection 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.

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.

ND = Not Detected during analysis of sample. **NA** = Not Applicable

NTU = Nephelometric Turbidity Units. Unit of measurement for turbidity.

ppm = parts per million. Unit of measurement. One part per million is equivalent to 30 seconds out of 1 year.

ppb = parts per billion. Unit of measurement. One part per billion is equivalent to 3 seconds out of 100 years.

ppt = parts per trillion. Unit of measurement. One part per trillion is equivalent to 3 seconds out of 100,000 years.

pCi/L = Picocuries per liter. Unit of measurement for radioactivity.

PFAS = Perfluoroalkyl and Polyfluoroalkyl substances (PFAS) sometimes known as Perfluorinated Chemicals or PFCs are a class of organic chemicals that are fire resistant and repel stains, oil, grease, and water. PFAS have been manufactured since the 1950s and have been used in numerous industrial processes and consumer products, such as fire-fighting foams, stain repellants, nonstick cookware, waterproof clothing and fast-food wrappers. PFAS are persistent and bioaccumulate in the environment which intensifies their potential public health threat. PFAS are found in the environment worldwide. More information on PFAS can be found at www.epa.gov/pfas/pfas-explained

RAA = Running Annual Average = calculated average based on the average of samples taken during the most recent 12 month period

Range of all Results = data based on the lowest and highest detection of all samples during the monitoring year.

SMCL – Secondary Maximum Contaminant Level. Non-mandatory highest level that are guidelines for aesthetic considerations.

TTHM = Total Trihalomethanes. Some people who consume TTHMs in excess of MCL during their lifetime may experience increased health risks.

TOC = Total Organic Carbon. Amount of carbon found in an organic compound and is often used as a non-specific indicator of water quality. The removal percentage between source and tap water helps determine if treatment processes are adequate. TOC has no health effects but can provide a medium for the formation of Disinfection By-products.

Turbidity = Measurement of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

TT = Treatment technique, required process intended to reduce the level of a contaminant. Filtered water must be less than 1 NTU at all times and 0.3 NTU 95% of the time.

WWTP – wastewater treatment plant

90th Percentile = Measurement of data for which 90% of the results are less than the level reported.

NOTED WEBSITES FOR FURTHER INFORMATION ON DRINKING WATER

www.dhd4.org www.epa.gov/safewater/lead www.michigan.gov/MILeadSafe <https://www.epa.gov/sdwa>
www.cdc.gov/healthywater/drinking/index.html www.michigan.gov/communitywater www.epa.gov/pfas/pfas-explained