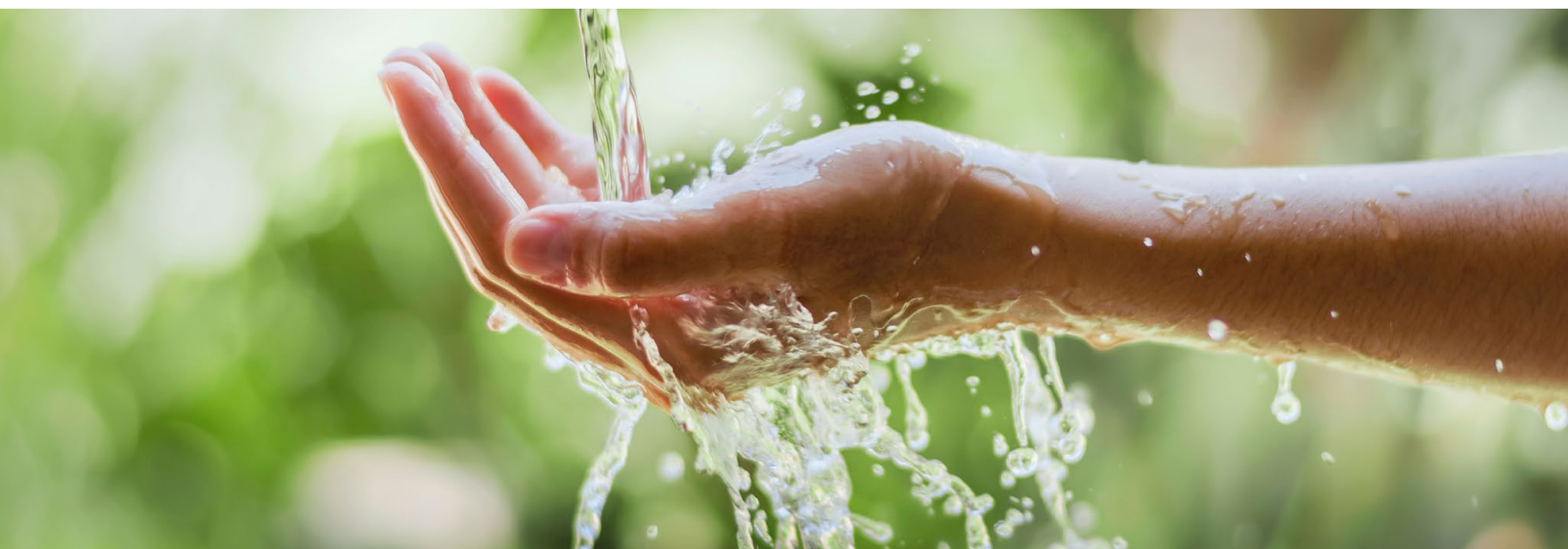




ANNUAL WATER QUALITY REPORT

Reporting Year 2023



Presented By



PWS ID#: 0001030



Our Commitment

We are pleased to present to you this year's annual water quality report. This report is a snapshot of last year's water quality covering all testing performed between January 1 and December 31, 2023. Included are details about your sources of water, what it contains, and how it compares to standards set by regulatory agencies.

Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and providing you with this information because informed customers are our best allies.

Source Water Assessment

The 1996 amendments to the Safe Drinking Water Act require that source water assessments be completed for all public water supplies in the United States. The Michigan Department of Environment, Great Lakes, and Energy (EGLE) developed a program to (1) identify areas that supply public drinking water; (2) assess the susceptibility of that supply to actual and potential contamination; and (3) inform the public of the assessment results. Cadillac's assessment was updated in 2022 based on its approved Wellhead Protection Program. EGLE's revised assessment lists the wells with a high to very high susceptibility (based on geology), well construction, well water chemistry, source isolation, and potential sources of contamination. Copies of the complete source water assessment are available at Cadillac's Municipal Complex and local EGLE office. To learn more about Cadillac's Wellhead Protection Program, please visit cadillac-mi.net.

“When the well is dry, we know the worth of water.”

—Benjamin Franklin

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. Environmental Protection Agency (U.S. EPA)/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection

by *cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or water.epa.gov/drink/hotline.



Where Does My Water Come From?

Cadillac's water comes from six water wells owned by the city. Our wells draw groundwater from aquifers 300 and 400 feet below ground. The city's older well field and one-million-gallon water tower were constructed in 1960, ending our reliance on surface water from Lake Cadillac. The most

current well field, consisting of three wells, was completed and put online in September 2022.

Because well water contains varying amounts of inorganic materials (iron, manganese, calcium), a blended solution of ortho- and polyphosphates is added at each well to sequester these.

Phosphates also ensure we maintain the highest water quality, inhibiting corrosion, scale, and biofilm and reducing lead and copper levels in the distribution system. Chlorine is added to disinfect the water supply.

Naturally Occurring Bacteria

The simple fact is, bacteria and other microorganisms inhabit our world. They can be found all around us: in our food; on our skin; in our bodies; and, in the air, soil, and water. Some are harmful to us and some are not. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern because it indicates that the water may be contaminated with other organisms that can cause disease. Throughout the year, we tested many water samples for coliform bacteria. In that time, none of the samples came back positive for the bacteria. Federal regulations require that public water that tests positive for coliform bacteria must be further analyzed for fecal coliform bacteria. Fecal coliform are present only in human and animal waste. Because these bacteria can cause illness, it is unacceptable for fecal coliform to be present in water at any concentration. Our tests indicate no fecal coliform is present in our water.

QUESTIONS? For more information about this report, or for any questions relating to your drinking water, please call Utilities Director Jeff Dietlin at (231) 775-0181.



What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air-conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial, commercial, and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection. For more information on backflow prevention, contact the Safe Drinking Water Hotline at (800) 426-4791.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.



Lead in Home Plumbing



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. We are responsible for providing high-quality drinking water, but we 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 two minutes before using water for drinking or cooking. If you have a service line that is lead, galvanized previously connected to lead, or unknown but likely to be lead, it is recommended that you run your water for at least five 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 Safe Drinking Water Hotline at (800) 426-4791, or on the U.S. EPA's website at water.epa.gov/drink/info/lead.



Community Participation

We want to inform our customers about their water utility. Copies of our operation budget and capital improvement plan are available at the Municipal Complex and cadillac-mi.net. If you would like to tour a facility or learn more about our operations, please call our office to make arrangements.

City council meetings are another good public forum for community participation; feel free to attend one of our regularly scheduled city council meetings on the first and third Monday of each month at 7:00 p.m. at the Municipal Complex, 200 Lake Street.

— BY THE NUMBERS —



5.1
TRILLION

The dollar value needed to keep water, wastewater, and stormwater systems in good repair.



12
THOUSAND

The average amount in gallons of water used to produce one megawatt-hour of electricity.



2

How often in minutes a water main breaks.



47.5
TRILLION

The amount in gallons of water used to meet U.S. electric power needs in 2020.



1.7
TRILLION

The gallons of drinking water lost each year to faulty, aging, or leaky pipes.



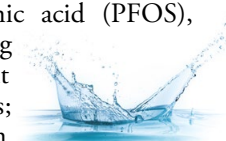
33

The percentage of water sector employees who will be eligible to retire in 2033.

Per- and Polyfluoroalkyl Substances

Per- and polyfluoroalkyl substances (PFAS) are a group of chemicals that are resistant to heat, water, and oil. PFAS have been classified by the U.S. EPA as emerging contaminants on the national landscape. For decades they have been used in many industrial applications and consumer products such as carpeting, waterproof clothing, upholstery, food paper wrappings, firefighting foams, and metal plating. They are still used today. PFAS have been found at low levels in the environment and in blood samples from the general U.S. population.

In samples collected in 2023 from the City of Cadillac's water supply entry points, no PFAS were detected. For information on perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), and other PFAS, including possible health outcomes, visit these websites: epa.gov/pfas; atsdr.cdc.gov/pfas/; michigan.gov/pfasresponse



Think Before You Flush!

Flushing unused or expired medicines can be harmful to your drinking water. Properly disposing of unused or expired medication helps protect you and the environment. Keep medications out of our waterways by disposing responsibly. To find a convenient drop-off location near you, please visit <https://bit.ly/3leRyXy>.



Lead Service Lines

Our preliminary Distribution System Materials Inventory (DSMI) indicates 3,996 total service lines in the Cadillac community water supply, with no known lead service lines. In compliance with the recently updated Michigan Lead and Copper Rule, we will continue to evaluate and update our DSMI until the October 2024 final inventory deadline.

Test Results

Our water is monitored for many kinds of substances on a very strict sampling schedule. The information in the data tables shows substances which were detected. Our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2023	[4]	[4]	0.96 ¹	0.03–2.20	No	Water additive used to control microbes
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2023	60	NA	1.4 ¹	NA	No	By-product of drinking water disinfection
Nitrate (ppm)	2023	10	10	0.8	ND–0.8	No	Erosion of natural deposits
TTHMs [total trihalomethanes]–Stage 2 (ppb)	2023	80	NA	9.6 ¹	NA	No	By-product of drinking water disinfection

Tap water samples were collected for lead and copper analyses from sample sites throughout the community								
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	RANGE LOW-HIGH	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2022	1.3	1.3	0.4	ND–0.7	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2022	15	0	ND	ND–5	0/30	No	Lead service lines; Corrosion of household plumbing, including fittings and fixtures; Erosion of natural deposits

SECONDARY SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2023	250	NA	25	ND–25	No	Runoff/leaching from natural deposits
Sulfate (ppm)	2023	250	NA	14	ND–14	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED SUBSTANCES				
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Hardness (ppm)	2023	167	137–167	Erosion of natural deposits
Sodium (ppm)	2023	5.6	2.8–5.6	Erosion of natural deposits

¹ Highest RAA.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

RAA (Running Annual Average): The average of sample analytical results for samples taken throughout the distribution system during the previous four calendar quarters.

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

