

ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2019

Presented By

CITY OF
CADILLAC
MICHIGAN

Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2019. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

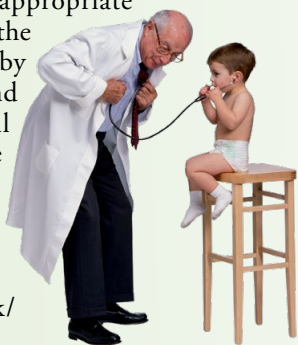
Please remember that we are always available should you ever have any questions or concerns about your water.



Important Health Information

The susceptible vulnerable subpopulation for lead exposure are infants and children. Infants and children who drink water containing lead in excess of the AL 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.

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. EPA/CDC (Centers for Disease Control and Prevention) 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 <http://water.epa.gov/drink/hotline>.



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. In our state, the Michigan Department of Environmental, 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 reevaluated in 2005 based on Cadillac's 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. (It is important to understand that this susceptibility rating does not imply poor water quality, only the system's potential to become contaminated within the assessment area.) 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 our Web site at www.cadillac-mi.net.

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 continue to evaluate and update our DSMI prior to the January 2025 final inventory deadline.

QUESTIONS?

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

Per- and Polyfluoroalkyl Substances (PFAS)

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. Environmental Protection Agency (U.S. EPA) as an emerging contaminant 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, fire-fighting foams, and metal plating. They are still used today. PFAS have been found at low levels both in the environment and in blood samples from the general U.S. population.

In samples collected in 2018 from the City of Cadillac's water supply entry points, PFAS were not detected (ND).

For information on PFOA, PFOS, and other PFAS, including possible health outcomes, you may visit these Web sites: <https://www.epa.gov/pfas>; <https://www.atsdr.cdc.gov/pfas/>; or <http://www.michigan.gov/pfasresponse>.

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 that 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.

Community Participation

We want to inform our customers about your water utility. Copies of our operation budget and capital improvement plan are available at the municipal complex and at 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 Mondays of each month, beginning at 7 p.m., at the Municipal Complex, 200 Lake Street, Cadillac, Michigan.

Where Does My Water Come From?

Cadillac's water comes from seven 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 1-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 August of 2012.

Because well water contains varying amounts of inorganic contaminants (iron, manganese, calcium, etc.), a blended solution of ortho and polyphosphates is added at each well to sequester these substances. In addition, phosphates also insure we maintain the highest water quality because they inhibit corrosion, scale, and biofilm, and reduce lead and copper levels in the distribution system. Chlorine is added to our system to disinfect the water supply.

We remain vigilant in delivering the best-quality drinking water

What Causes the Pink Stain on Bathroom Fixtures?

The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, toothbrush holders, and on pets' water bowls is caused by the growth of the bacterium *Serratia marcescens*. *Serratia* is commonly isolated from soil, water, plants, insects, and vertebrates (including man). The bacteria can be introduced into the house through any of the above-mentioned sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive.

The best solution to this problem is to continually clean and dry the involved surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help to eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence.

Serratia will not survive in chlorinated drinking water.



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 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 at (800) 426-4791, or on the U.S. EPA's website at <http://water.epa.gov/drink/info/lead/index.cfm>.

Test Results

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

The state recommends monitoring for certain substances less often 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.

We participated in the 4th stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminant Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES									
SUBSTANCE (UNIT OF MEASURE)		YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE	
Arsenic (ppb)		2016	10	0	2.40	ND–2.40	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes	
Barium (ppm)		2016	2	2	0.046	0.0065–0.046	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	
Chlorine (ppm)		2019	[4]	[4]	1.05	0.00–1.65	No	Water additive used to control microbes	
Chromium (ppb)		2016	100	100	1.2	ND–1.2	No	Discharge from steel and pulp mills; Erosion of natural deposits	
Fluoride (ppm)		2019	4	4	0.17	ND–0.17	No	Erosion of natural deposits; Discharge from fertilizer and aluminum factories	
Nitrate (ppm)		2019	10	10	0.8	ND–0.8	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	
TTHMs [Total Trihalomethanes] (ppb)		2019	80	NA	5.2	ND–2.8	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)	2019	1.3	1.3	0.5	ND–0.9	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits	
Lead (ppb)	2019	15	0	3	ND–24	1/30	No	Corrosion of household plumbing systems; Erosion of natural deposits	
SECONDARY SUBSTANCES									
SUBSTANCE (UNIT OF MEASURE)		YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE	
Chloride (ppm)		2019	250	NA	16	7–16	No	Runoff/leaching from natural deposits	
Iron (ppb)		2019	300	NA	900	ND–900	No	Leaching from natural deposits; Industrial wastes	
Sulfate (ppm)		2019	250	NA	10	ND–10	No	Runoff/leaching from natural deposits; Industrial wastes	

UNREGULATED CONTAMINANT MONITORING RULE - PART 4 (UCMR4)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Bromide (ppb)	2019	85.5	ND–113
Bromochloroacetic Acid (ppb)	2019	0.48	0.40–0.56
Chlorodibromoacetic Acid (ppb)	2019	0.34	0.32–0.35
Dibromoacetic Acid (ppb)	2019	0.53	0.52–0.54
Manganese (ppb)	2019	12.1	1.7–22.5
Total Organic Carbon [TOC] (ppb)	2019	1,055	ND–1,310

UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Hardness (ppm)	2019	145	138–145	Erosion of natural deposits
Nickel (ppb)	2016	1.1	ND–1.1	Industrial discharge; Erosion of natural deposits
Sodium (ppm)	2019	8	7–8	Erosion of natural deposits

Definitions

RAA (Running Annual Average): The average of sample analytical results for samples taken throughout the distribution system during the previous four calendar quarters. The Amount Detected value for chlorine is reported as the highest RAA.

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 that, if exceeded, triggers treatment or other requirements that a water system must follow.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

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).

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