2022 Water Quality Report

Water Department
City of Portland
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We're pleased to present to you the City of Portland's 2022 Annual Water Quality Report. This information is a snapshot of the quality of the water that we provided to you in 2022. Included are details about where your water comes from, what it contains, and how it compares to United States Environmental Protection Agency (U.S. EPA) and state standards.

This report is designed to inform you about the quality water and services we deliver to you every day. 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.

Our water source is groundwater that is pumped from four wells. One of our wells pumps water from a bedrock aquifer known as the "Saginaw Aquifer." We have three other wells that pump water from a sand and gravel, or "drift" aquifer.

We participate in several programs to sustain our water quality, including:

- Wellhead Protection. We maintain a State of Michigan approved Wellhead Protection Plan. The plan, and more information, such as potential sources of contamination, is available from our office or online at our City website. Click on "City Services" and then "Water Department" scroll down to "Wellhead Protection Program Plan."
- Water Reliability Studies. These studies are conducted every 5 years and reviewed with the State of Michigan. They are used to confirm our water infrastructure is being maintained and will keep up with our growth.
- Risk and Resiliency Assessment. These assessments are now conducted every 5 years and help us evaluate risks to our water system. Based on our risks, the assessment provides us with methods to prepare for emergencies.
- Water System Emergency Response Plan. We maintain a plan of action for various emergency types.

Contaminants and their presence in water: 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 U.S. EPA's Safe Drinking Water Hotline (800-426-4791).

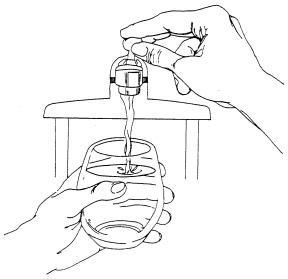
Vulnerability of sub-populations: Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune systems disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. U.S. EPA/Center for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Sources of drinking water: The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Our water comes from 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 from 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 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 and residential uses.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.



In order to ensure that tap water is safe to drink, the U.S. EPA prescribes regulations that limit the levels of certain contaminants in water provided by public water systems. Federal Food and Drug Administration regulations establish limits for contaminants in bottled water which provide the same protection for public health.

We're pleased to report that the City of Portland drinking water is safe, and meets or exceeds federal and state requirements. This report provides information about our water quality. Much of the information contained in this report are required by the EPA. If you have questions about the contents of this report, please contact me.

Below, you will find many terms and abbreviations that you may not be familiar with. To help you better understand these terms, we've provided the following definitions:

- *Maximum Residual Disinfectant Level (MRDL)* - 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.
- *Maximum Residual Level Goal (MRDLG)* – 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.
- *ND* – not detectable at the laboratory testing limit.
- *N/A* – not applicable
- *Parts per million (ppm) or Milligrams per liter (mg/l)* – one part per million corresponds to approximately one minute in two years, or a single penny in $10,000.
- *Parts per billion (ppb) or Micrograms per liter* – one part per billion corresponds to one second in nearly 32 years, or a single penny in $10,000,000.
- *Picocuries per liter (pCi/L)* – Picocuries per liter is a measure of radioactivity in water.
- *Action Level* - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- *Maximum Contaminant Level (MCL)* – 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.
- *Maximum Contaminant Level Goal (MCLG)* – 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.

The table below lists all the drinking water contaminants that we detected during the 2022 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2022. The State 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 the data is representative of the water quality, but some are more than one year old.

MONITORING DATA							
Regulated Contaminant	MCL, TT, or MRDL	MCLG or MRDLG	Level Detected	Range	Year Sampled	Violation Y/N	Likely Source of Contamination
Arsenic (ppb)	0.010	0	ND	0 - 2	2021	No	Erosion of natural deposits; runoff from orchards, runoff from glass and electronics production wastes
Barium (ppm)	2	2	0.02	0.009 - 0.01	2021	No	Discharge of drilling wastes; discharge from metal refineries, erosion of natural deposits
Fluoride (ppm)	4	4	0.26	0.1 - 0.3	2022	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Sodium[1] (ppm)	N/A	N/A	120	N/A	2022	No	Erosion of natural deposits
Nitrate (ppm)	10	10	1.0	N/A	2022	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
1,2 Dichloroethane (ppm)	0.005	0	ND	N/A	2022	No	Discharge from industrial chemical factories
TTHM Total Trihalomethanes (ppb)	80	N/A	0.0160	0.5 - 80	2022	No	Byproduct of drinking water disinfection
HAA5 Haloacetic Acids (ppb)	60	N/A	0.002	0 - 60	2022	No	Byproduct of drinking water disinfection
Chlorine[2] (ppm)	4	4	0.56	0.11 – 1.35	2022	No	Water additive used to control microbes
Inorganic Contaminant Subject to Action Levels (AL)	Action Level	MCLG	Your Water[3]	Range of Results	Year Sampled	Number of Samples Above AL	Typical Source of Contaminant
Lead (ppb)	15	0	3	ND-.003	2021	0	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits
Copper (ppm)	1.3	1.3	0.68	ND-1.45	2021	1	Corrosion of household plumbing systems; Erosion of natural deposits

[1] Sodium is not a regulated contaminant.
[2] The chlorine "Level Detected" was calculated using a running annual average.
[3] Ninety (90) percent of the samples collected were at or below the level reported for our water.

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over man years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Regulated Contaminant	MCL, TT, or MRDL	MCLG or MRDLG	Level Detected	Violation Y/N	Likely Source of Contamination
Combined radium (pCi/L)	5	0	N/A	No	Erosion of natural deposits
Alpha emitters (pCi/L)	15	0	N/A	No	Erosion of natural deposits

Regulated Contaminant	MCL, TT, or MRDL	MCLG or MRDLG	Level Detected	Year Sampled	Violation Yes/No	Typical Source of Contaminant
Hexafluoropropylene oxide dimer acid (HFPO-DA) (ppt)	370	N/A	ND	2022	No	Discharge and waste from industrial facilities utilizing the Gen X chemical process
Perfluorobutane sulfonic acid (PFBS) (ppt)	420	N/A	ND	2022	No	Discharge and waste from industrial facilities; stain-resistant treatments
Perfluorohexane sulfonic acid (PFHxS) (ppt)	51	N/A	ND	2022	No	Firefighting foam; discharge and waste from industrial facilities
Perfluorohexanoic acid (PFHxA) (ppt)	400,000	N/A	ND	2022	No	Firefighting foam; discharge and waste from industrial facilities
Perfluorononanoic acid (PFNA) (ppt)	6	N/A	ND	2022	No	Discharge and waste from industrial facilities; breakdown of precursor compounds
Perfluorooctane sulfonic acid (PFOS) (ppt)	16	N/A	ND	2022	No	Firefighting foam; discharge from electroplating facilities; discharge and waste from industrial facilities
Perfluorooctanoic acid (PFOA) (ppt)	8	N/A	ND	2022	No	Discharge and waste from industrial facilities; stain-resistant treatments

Information about lead: 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 Portland 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 Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Our water supply has zero lead service lines and <1% service lines of unknown material out of a total of +-1500 service lines.

What does this mean?
The State of Michigan and the U.S. EPA require us to test our water on a regular basis to ensure its safety. We met all the monitoring and reporting requirements for 2022. We will update this report annually and will keep you informed of any problems that may occur throughout the year, as they happen.

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding.

If you have any questions about this report or concerning your City water utility, please contact Rod Smith, Water Technician at (517) 647-2948. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the first and third Monday of every month at 7:00 p.m. in the City Council Room at City Hall located at 259 Kent Street.

Copies of this report are available at City Hall, the Portland Public Library, and on the City of Portland website at www.portland-michigan.org.

Thank you.

Water Department, City of Portland