ANNUAL WATER QUALITY REPORT

Reporting Year 2022

Presented By

City of Wayland

PWS ID#: 06940

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, 2022. 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 copper exposure is people with Wilson's disease. 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 many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

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.

Information on the Internet

The U.S. EPA (https://goo.gl/TFAMKc) and CDC (www.cdc.gov) websites provide a substantial amount of information on many issues relating to water resources, water conservation, and public health. The EGLE website (https://goo.gl/m3Scbr) provides complete and current information on water issues in Michigan, including valuable information about our watershed.

Source Water Assessment

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) last performed an assessment of our source water in 2019 to determine its susceptibility to potential contamination. The susceptibility is on a scale from very low to very high based on geologic sensitivity, water chemistry, well construction, and contaminant sources. It is important to understand that a susceptibility rating of very high does not imply poor water quality, only the system's potential to become contaminated within the assessment area. EGLE rated the susceptibility of Wells 3 and 6 as moderate and Well 5 as moderately high. To obtain a copy of the assessment report, please contact David Paul at (269) 792-0686.

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 http://water.epa.gov/drink/info/lead.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call David Paul, Utilities Director, at (269) 792-0686.

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 Service Lines

Our water supply has 219 lead service lines and 428 service lines of unknown material out of a total of 1,163 service lines.

About Our Violations

1. Monitoring and Reporting for Disinfection By-Products

On August 24, 2022, we sampled for total trihalomethanes (TTHM) and the sum of five haloacetic acids (HAA5) but provided the incorrect site code; therefore, the samples were not accepted for compliance monitoring. We will collect the required follow-up samples in August 2023. We do not believe that missing this monitoring requirement had any impact on public health and safety. We have already taken the steps to ensure that adequate monitoring and reporting will be performed in the future so that this oversight will not be repeated.

2. Monitoring and Reporting for Lead and Copper

We inadvertently missed taking samples within the required lead and copper sampling period for 2022. There is nothing that can be done at this time. This is not an emergency. We will be conducting lead and copper sampling between the months of June and September 2023. We are making every effort to ensure this does not happen again.

3. Reporting of Monthly Operational Data for October 2022

The October 2022 Monthly Operational Report was not submitted by the required due date of November 10, 2022. The report was submitted on January 10, 2023.

4. Reporting for Total Coliform for October 2022

While we collected the samples on time, we inadvertently missed reporting the sample results to EGLE by the required deadline. We are required to monitor total coliform by collecting four samples per month. We collected the required samples on October 4, 2022, but failed to report the results until December 15, 2022. We are making efforts to ensure this does not happen again. We have already returned to compliance.

5. Monitoring and Reporting for Water Quality Parameters

From July to December 2022, we did not test for some or all of the required water quality parameters and therefore cannot be sure of the quality of the drinking water during that time. We are making efforts to ensure this does not happen again. We have already returned to compliance.

Community Water Fluoridation

The safety and benefits of fluoride are well documented. For over 70 years, U.S. citizens have benefited from drinking water containing fluoride, leading to better dental health. Drinking fluoridated water keeps the teeth strong and has reduced tooth decay by approximately 25 percent in children and adults.

Over the past several decades, there have been major improvements in oral health. Still, tooth decay remains one of the most common chronic diseases of childhood. Community water fluoridation has been identified as the most cost-effective method of delivering fluoride to all members of the community, regardless of age, educational attainment, or income level. Nearly all water contains some fluoride but usually not enough to help prevent tooth decay or cavities. Public water systems can add the right amount of fluoride to the local drinking water to prevent tooth decay.

Community water fluoridation is recommended by nearly all public health, medical, and dental organizations in the U.S. Because of its contribution to the dramatic decline in tooth decay, the CDC named community water fluoridation one of the greatest public health achievements of the 20th century. (Courtesy of CDC: cdc.gov/fluoridation)

Where Does My Water Come From?

Our water sources are groundwater wells that draw from the Marshall and Glacial aquifers. At each of our three well houses, we add chlorine as a disinfectant, fluoride to promote healthy teeth, and a phosphate compound for corrosion control.

Community Participation

You are invited to participate in our city council meetings and voice your concerns about your drinking water. We meet the first and third Monday of each month at 7:00 p.m. at City Hall. A schedule of city council meetings is posted on our website, cityofwayland.org.

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).

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

Test Results

Maximum contaminant levels (MCLs) are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink two liters of water at the MCL every day for a lifetime for a one-in-a-million chance of having the described health effect.

The City of Wayland employs state-certified professional waterworks system operators who routinely monitor for constituents in your drinking water according to federal and state laws. In order to ensure that tap water is safe to drink, the U.S. EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The following table lists all the drinking water contaminants that were detected. U.S. EPA requires water suppliers to report the most recent sampling results within a five-year period. If the detected concentration is above the safe drinking water standard, a violation has occurred, and a "YES" in bold will appear in the Violation column. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk.

The state requires 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. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

On January 6, 2023, we were informed by Michigan EGLE that a significant deficiency of managerial capacity and monitoring for contaminants had been identified. The managerial aspect of the deficiency has been corrected. The monitoring for contaminants deficiency (lead and copper sampling) will be corrected during the next sampling period in 2023.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2021	10	0	4	ND–4	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2021	2	2	0.2	0.08–0.2	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2022	[4]	[4]	0.29[1]	0.13–0.45	No	Water additive used to control microbes
Nitrate (ppm)	2022	10	10	2.4	ND–2.4	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [total trihalomethanes]–Stage 2 (ppb)	2022	80	NA	7[2]	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)	2021	1.3	1.3	0.9	ND–2.2	1/22	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2021	15	0	1	ND–7	0/22	No	Lead service lines; Corrosion of household plumbing systems, 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)	2022	250	NA	40.5	16.6–40.5	No	Runoff/leaching from natural deposits
Fluoride (ppm)	2022	2.0	NA	0.53	0.40–0.53	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Iron (ppb)	2022	300	NA	509	NA	No	Leaching from natural deposits; Industrial wastes
Sulfate (ppm)	2022	250	NA	32.6	19.1–32.6	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium (ppm)	06/23/2022	18.4	7.65–18.4	NA
Total Hardness (ppm)	06/23/2022	409	360–409	NA

[1] These values are calculated using a running annual average of disinfection residuals taken during routine distribution bacteria sampling.
[2] The result was not accepted by Michigan EGLE as a compliance monitoring sample due to a monitoring and reporting violation.

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Monitoring Requirements Not Met for

City of Wayland

The City of Wayland is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During August 1, 2022, to August 31, 2022, we did not complete monitoring for total trihalomethanes (TTHM) and haloacetic acids (HAA5) and therefore, cannot be sure of the quality of your drinking water during that time. The violation does not pose a threat to the quality of the supply's water.

What should I do? There is nothing you need to do at this time. This is not an emergency. You do not need to boil water or use an alternative source of water at this time. Even though this is not an emergency, as our customers, you have a right to know what happened and what we are doing to correct the situation.

The table below lists the contaminants we did not properly test for, how often we are supposed to sample for these contaminants, how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date we will collect follow-up samples.

Contaminants	Required sampling frequency	Number of samples taken	Date samples should have been collected	Date samples will be collected
TTHM	1 sample every year	0	08/01/2022– 08/31/2022	08/01/2023 – 08/31/2023
HAA5	1 sample every year	0	08/01/2022- 08/31/2022	08/01/2023- 08/31/2023

What happened? What is being done? We sampled TTHM and HAA5 on August 24, 2022, but provided the incorrect site code; therefore, the samples were not accepted for compliance monitoring. We will collect the required follow-up samples during August 2023. Our staff is making every effort to assure this does not happen again.

For more information, please contact David Paul, Utilities Director at 269-509-6946.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

More information about your drinking water is available from the U.S. Environmental Protection Agency Office of Water home page at: http://www.epa.gov/safewater/dwinfo.htm.

This notice is being sent to you by the City of Wayland.

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Reporting Requirements Not Met for the City of Wayland

We are required to report the results of your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. While we collected our monthly total coliform sample on time, we did not report the results to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) by the November 10, 2022, deadline for the October 1 to October 31, 2022, compliance period.

What should I do?

There is nothing you need to do at this time. This is not an emergency. You do not need to boil water or use an alternative source of water at this time. The results of the sample were negative for bacteria. Even though public health was not impacted, as our customers, you have a right to know what happened and what we did to correct the situation.

What happened? What is being done?

While we collected the sample on time, we inadvertently missed reporting the sample results to EGLE by the required deadline. We are required to monitor total coliform by collecting four samples per month. We collected the required samples on October 4, 2022, but failed to report the result until December 15, 2022. We are making efforts to ensure this does not happen again. We have already returned to compliance.

For more information, please contact David Paul, Utilities Director at 269-509-6946

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IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Monitoring Requirements Not Met for Wayland

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During June 1, 2022, to September 30, 2022, we did not monitor correctly for lead and copper, and therefore cannot be sure of the quality of our drinking water during that time.

What should I do? There is nothing you need to do at this time. This is not an emergency. You do not need to boil water or use an alternative source of water at this time. Even though this is not an emergency, as our customers, you have a right to know what happened and what we are doing to correct the situation.

The table below lists the contaminants we did not properly test for, how often we are supposed to sample for these contaminants, how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date we will collect follow-up samples.

Contaminants	Required sampling frequency	Number of sites sampled	When samples should have been collected	Date additional samples will be collected
Lead and Copper	20 sites to be sampled every year	0	June 1, 2022 to September 30, 2022	June 1, 2023 to September 30, 2023

What happened? What is being done? We inadvertently missed taking samples within this required sampling period. We are making every effort to assure this does not happen again.

For more information, please contact David Paul, Utilities Director, at 269-509-6946.

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IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Monitoring Requirements Not Met for the City of Wayland

We are required to monitor your drinking water for specific analytes on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the monitoring period of July 1 to December 31, 2022, we did not test for some or all of the required Water Quality Parameters (WQPs), and therefore cannot be sure of the quality of our drinking water during that time. However, this violation **does not** pose a threat to your supply's water.

What should I do? There is nothing you need to do at this time. This is not an emergency. You do not need to boil water or use an alternative source of water at this time. Even though this is not an emergency, as our customers, you have a right to know what happened and what we did to correct the situation.

The table below lists the analytes we did not properly test for, how often we are supposed to sample for this analyte, how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date we will collect follow-up samples.

Analytes	Required sampling frequency	# of samples taken	When all samples should have been taken between	Date samples were taken by
Point of Entry WQP[1] Orthophosphate	1 sample/every 2 weeks (TP003)	0 of 1	June 26, to July 9, 2022	July 13, 2022
Point of Entry WQP[1] Orthophosphate	1 sample/every 2 weeks (TP003, SS0056)	0 of 1	July 24, to August 6, 2022	August 25, 2022
Point of Entry WQP[1] pH, chloride, sulfate and the applied dosage and residual orthophosphate	1 sample/every 2 weeks (TP003)	0 of 1	August 7, to August 20, 2022	August 25, 2022
Point of Entry WQP[1] pH, chloride, sulfate and the applied dosage and residual orthophosphate	1 sample/every 2 weeks (TP003)	0 of 1	November 13, to November 26, 2022	December 7, 2022
Point of Entry WQP[1] Orthophosphate	1 sample/every 2 weeks (SS056)	0 of 1	July 10, to July 23, 2022	August 12, 2022
Point of Entry WQP[1] Orthophosphate	1 sample/every 2 weeks (SS056)	0 of 1	July 24, to August 6, 2022	August 25, 2022
Point of Entry WQP[1] pH, chloride, sulfate and the applied dosage and residual orthophosphate	1 sample/every 2 weeks (SS056)	0 of 1	August 21, to September 3, 2022	September 9, 2022

What happened? What is being done? We failed to take and analyze samples for all the required parameters within the required sampling periods. Monitoring of WQPs is an essential part of a corrosion control treatment program and is used to evaluate the potential aggressiveness of water on plumbing and fixtures. Sampling of WQPs is required to safeguard public health. We will continue to work with the Michigan Department of Environment, Great Lakes, and Energy to resolve this issue as quickly as possible.

For more information, please contact: Joshua Eggleston, City Manager: City of Wayland, 103 South Main Street, Wayland, Michigan 49348; email: jeggleston@cityofwayland.org; or call 269-792-2265.

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[1] WQP are a group of analytes that are indicators of corrosivity. They can include pH, alkalinity, calcium, conductivity, temperature, sulfate, chloride, and orthophosphate.