



# GEAUGA COUNTY BOARD OF COMMISSIONERS

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## *Annual Drinking Water Quality Report* **BAINBRIDGE WATER SYSTEM** *Consumer Confidence Report*

We are pleased to present to you the 2022, Annual Drinking Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our 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 our water distribution process and protect our water resources. We are committed to ensuring the quality of your water. Included with this report is general health information, water quality test results, how to participate in decisions concerning your drinking water, and water system contacts.

### **WATER SOURCE**

The water source for the Geauga County Bainbridge Water System (GCBW) is treated surface water from Lake Erie that we purchase from the **City of Cleveland**. **Cleveland Water (CW)** draws source water from four intakes located far offshore in Lake Erie's Central Basin. Lake Erie is considered a surface water source. The intakes are spread out over 15 miles and are 3 to 5 miles offshore where the water is cleaner and has been minimally impacted from tributary runoff and coastal activities. About Ninety percent of the water entering Lake Erie flows down the Detroit River from Lake St. Clair; another 4 percent drains from the Maumee River. Both flow into the lake's shallow Western Basin. The remaining water comes from rain and snow in the Lake Erie drainage basin which includes the various streams and rivers that flow into Lake Erie.

By their nature, surface waters, such as lakes and rivers, are accessible and can be contaminated by chemicals and disease causing organisms. However, since the CWD intake systems are located a great distance offshore, the potential contamination from rivers, stream and other nearby sources is greatly minimized. A Source Water Assessment completed for the City of Cleveland water system determined that there was a low susceptibility to contamination due to the locations of the intakes.

Since no single treatment process can address all possible contaminants, they use a multiple barrier process to treat Lake Erie water in order to meet drinking water quality standards.

Additionally, implementing measures to protect Lake Erie may improve our water quality. There are several ways that area residents and businesses can help protect Lake Erie. 1. Remove trash and debris from sewers and storm sewers. 2. Dispose of household wastes such as fertilizers, pesticides, paints, paint thinners and motor oil properly. 3. Prevent soil erosion by planting trees, grass or shrubs along streams and rivers. 4. Support local watershed groups as well as other organizations dedicated to protecting the environment. For information about potential pollution sources, contact their risk management Section at 216-664-2444, ext. 5826 and ask for their Drinking Water Source Assessment Report.

## **COMPLIANCE WITH DRINKING WATER REGULATIONS**

Both Geauga County Bainbridge Water System and Cleveland Water have a current and unconditional license to operate our water systems. The license is issued by the Ohio Environmental Protection Agency.

## **PUBLIC PARTICIPATION INFORMATION**

The Cleveland Division of Water's Customer Service Department can be contacted for more information on this report at 216-664-3130. Ask for the 2022 Water Quality Report. The Cleveland Water Division has a Speaker's Bureau Program that can be reached by calling Public Relations at 216-644-2444, ext. 5853.

Included in the report are the laboratory analysis from Cleveland Water.

## **FOR MORE INFORMATION**

For questions about this Consumer Confidence Report, or concerning the Department's Water Section, please contact the Geauga County Department of Water Resources (GCDWR) at (440) 279-1971 or visit our website at [WWW.GCDWR.ORG](http://WWW.GCDWR.ORG) and click on the water tab. Our office hours are Monday-Friday from 8:00 AM to 4:30 PM and our office is located at 12611 Ravenwood Drive Suite # 390 Chardon, Oh. 44024. Public participation and comments are encouraged. Available at our offices and on our website are pamphlets explaining what, you the consumer, can do to help protect our sources and minimize water use through leak detection and water conservation. These pamphlets are free to the public and can be picked up or requested to be mailed to our customers by calling the office Monday-Friday at the number listed above.

**Geauga County Department of Water Resources and Cleveland Water** routinely monitor for contaminants in your drinking water according to Federal and State laws. The tables at the end of this report show the notable results of our combined monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2022.

## **WHAT ARE THE SOURCES OF POTENTIAL CONTAMINATION TO DRINKING WATER?**

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 and, in some cases radioactive material and can pick up substances resulting from the presence of animals or from human activity.

Drinking water, including bottled water, may 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 health effects can be obtained by calling the Environmental Protection Agency's Safe Water Hotline (1-800-426-4791)

In order to ensure tap water is safe to drink, USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection to public health.

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 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 agriculture, urban storm water runoff, and residential uses.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also, come from gas stations, urban runoff, and septic systems.
- *Radioactive contaminants*, which can be naturally occurring or be the result of oil and gas production and mining activities

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 from infections. These people should seek advice about drinking water from their health care providers. USEPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the **Safe Drinking Water Hotline (800-426-4791)**.

## **ASSISTANCE**

We ask that all our customers help us protect our water supplies and sources by reporting any unusual activity around fire hydrants or any of our other facilities. All reports should be made to our office during working hours, after hours calls can be made to our answering service at 1-877-902-2359, the Bainbridge Police Department after hours at (440) 543-8252 or the Geauga County Sheriff's Department at (440) 286-1234. Any unauthorized use is against Department policy, The Ohio Revised Code, and the Federal Law. The possibility of damage, requiring a boil advisory or worse yet an outage that cannot be repaired quickly, would be a major inconvenience to all.

## **ABOUT YOUR DRINKING WATER**

The EPA requires regular sampling to ensure drinking water safety. Geauga Bainbridge Water and Cleveland Water conducted sampling for bacteria, inorganic, radiological, synthetic organic, and volatile organic contaminants during 2022. During the year, 148 samples were analyzed for different and specific contaminants, most of which were not detected in the Bainbridge Water supply or the Cleveland Water supply. The Ohio EPA requires us to monitor for some contaminants less than once per year because the concentrations do not change frequently. Some of our data, though accurate, are more than one year old.

Geauga County Bainbridge Water System and Cleveland Water are in compliance with all Maximum Contaminant Levels and Treatment Techniques for drinking water.

### **Monitoring Violations**

The Geauga County Bainbridge Water System had zero monitoring violations for 2022.

## **IMPORTANT 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. Geauga County Bainbridge Water and Cleveland Water are responsible for delivering 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 water your tap for 30 seconds – 2 minutes before using for drinking and 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 minimize exposure is available from the Safe Drinking Water Hotline at 800-426-4791 or at <http://www.epa.gov/safewater/lead>.

## BAINBRIDGE WATER DISTRIBUTION WATER SAMPLING RESULTS

### TABLES OF DETECTED CONTAMINANTS

#### *Disinfectant and Disinfectant By-Products*

| Contaminants (Units)               | MCLG         | MCL         | Level Found | Range of Detection | Violation | Year Tested | Typical Source of Contamination           |
|------------------------------------|--------------|-------------|-------------|--------------------|-----------|-------------|---|
| Total Chlorine (ppm)               | MRDLG<br>= 4 | MRDL<br>= 4 | 1.19        | 0.8-1.57           | No        | 2022        | Water additive to control microbes        |
| Haloacetic Acids (HAA5) (ppb)      | NA           | 60          | 27.1        | 8.57-27.1          | No        | 2022        | By-Product of drinking water disinfection |
| Total Trihalomethanes (TTHM) (ppb) | NA           | 80          | 16.6        | 15.0-16.6          | No        | 2022        | By-Product of drinking water disinfection |

\* The USEPA sets standards for controlling disinfectants and disinfectant by-products in drinking water. By-products, such as TTHMs and HAA5, form when combining chlorine with naturally occurring organic matter. Locations with elevated disinfection by-product concentrations are being identified and will be used for future compliance monitoring and reporting.

#### *Lead and Copper Monitoring*

| Contaminates (units) (ppb) | Action Level (AL) | Individual Results over AL | 90% of test levels were less than | Year Tested | Violation | Source of Contamination  |
|----------------------------|-------------------|----------------------------|-----------------------------------|-------------|-----------|--|
| Lead (ppb)                 | 15 ppb            | N/A                        | 0 ppb                             | 2020        | No        | Corrosion of household plumbing systems; erosion of natural deposits                                     |
| Copper (ppm)               | 1.3 ppm           | N/A                        | 0.14 ppm                          | 2020        | No        | Erosions of natural deposits; leaching from wood preservatives; Corrosions of household plumbing systems |

0 samples were over the lead action level of 15 ppb.

0 samples were over the copper action level of 1.3ppm.

# CLEVELAND WATER

## TREATED WATER SAMPLING RESULTS

### TABLES OF DETECTED CONTAMINANTS

#### *Turbidity*

| Contaminants<br>(Units)  | MCLG | MCL                       | Level<br>Detected | Range of<br>Detections | Violation | Year<br>Tested | Typical Source of<br>Contamination |
|--|------|---------------------------|-------------------|------------------------|-----------|----------------|------------------------------------|
| <b>Baldwin Water Plant</b><br>Turbidity (NTU)<br>(% meeting standard)    | NA   | TT*( $<1$ NTU)<br>TT* (%) | 0.14<br>100%      | 0.02-0.14              | No        | 2022           | Soil runoff                        |
| <b>Nottingham Water Plant</b><br>Turbidity (NTU)<br>(% meeting standard) | NA   | TT*( $<1$ NTU)<br>TT* (%) | 0.25<br>100%      | 0.02-0.25              | No        | 2022           | Soil runoff                        |

\*Turbidity is a measure of the cloudiness of water and an indication of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.3 NTU in 95% of the samples analyzed each month and shall not exceed 1 NTU at any time for each of our water treatment plants. As reported above, Cleveland Water's highest recorded treated water turbidity result for 2022 was 0.25 NTU and we met turbidity limits 100% of the time.

#### *Inorganics*

| Contaminant   | MCLG | MCL | Level<br>Detected | Range of<br>Detections | Violation | Year<br>Tested | Typical Source of<br>Contamination   |
|---|------|-----|-------------------|------------------------|-----------|----------------|--|
| <b>Baldwin Water Plant</b><br>Fluoride (mg/L)               | 4    | 4   | 1.01              | 0.82-1.26              | No        | 2022           | Water additive which promotes strong teeth   |
| <b>Nottingham Water Plant</b><br>Fluoride (mg/L)            | 4    | 4   | 0.99              | 0.80-1.25              | No        | 2022           | Water additive which promotes strong teeth   |
| <b>Baldwin Water Plant</b><br>Nitrate as Nitrogen (mg/L)    | 10   | 10  | 0.64              | ND – 0.64              | No        | 2022           | Runoff from fertilizer use, leaching from septic tanks sewage, erosion of natural deposits |
| <b>Nottingham Water Plant</b><br>Nitrate as Nitrogen (mg/L) | 10   | 10  | 0.86              | ND – 0.86              | No        | 2022           | Runoff from fertilizer use, leaching from septic tanks sewage, erosion of natural deposits |

## Organic Contaminants

| Contaminant   | MCLG | MCL  | Level Detected | Range of Detections | Violation | Year Tested | Typical Source of Contamination      |
|---|------|------|----------------|---------------------|-----------|-------------|--------------------------------------|
| <b>Baldwin Water Plant</b><br>Total Organic Carbon *    | NA   | TT** | 1.45           | 1.37-1.61           | No        | 2022        | Naturally present in the environment |
| <b>Nottingham Water Plant</b><br>Total Organic Carbon * | NA   | TT** | 1.34           | 1.27-1.40           | No        | 2022        | Naturally present in the environment |

\*\*The value reported under "Level Found" for Total Organic Carbon (TOC) is the lowest running annual average ratio between the percent of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one (1) indicates compliance with TOC removal requirements. A value less than 1 indicates a violation of the TOC removal requirements. The values reported under the "Range of Detections" for TOC is the lowest monthly ratio to the highest monthly ratio.

## DEFINITIONS OF SOME TERMS CONTAINED WITHIN THIS REPORT

In the table on the last pages, you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

**Non-Detects (ND)** - laboratory analysis indicates that the contaminant is not present.

**Parts per million (ppm) or Milligrams per liter (mg/l)** - one part per million corresponds to one minute in two years or a single penny in \$10,000.

**Parts per billion (ppb) or Micrograms per liter (ugl)**- one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Less Than** = <

**More Than** = >

**Nephelometric Turbidity Unit (NTU)** - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

**Treatment Technique (TT)** - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

**Maximum Contaminant Level** - The "Maximum Allowed" (MCL) is 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 "Goal"(MCLG) is 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.

**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 the control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG)** - The level of 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.

**Turbidity**- is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system. The turbidity limit is set by the EPA is 0.3 NTU in 95% of the samples analyzed each month and shall not exceed 1 NTU at any time.

**Thank you for taking the time to read this CCR. We appreciate you as our customer and work very hard for your continued trust and faith in our commitment to the supply of safe drinking water.**

**Please post this in a very public location, inform your staff of its location and copy as required so that all users of our water can be informed. If you would like more copies from The Department of Water Resources, Water Section please call our office, at (440)-279-1971, or visit our website at [WWW.GCDWR.ORG](http://WWW.GCDWR.ORG) and click on the water tab.**