

# *Cleveland Water*

2018 WATER QUALITY REPORT

WE'RE ERIE-SISTABLE!



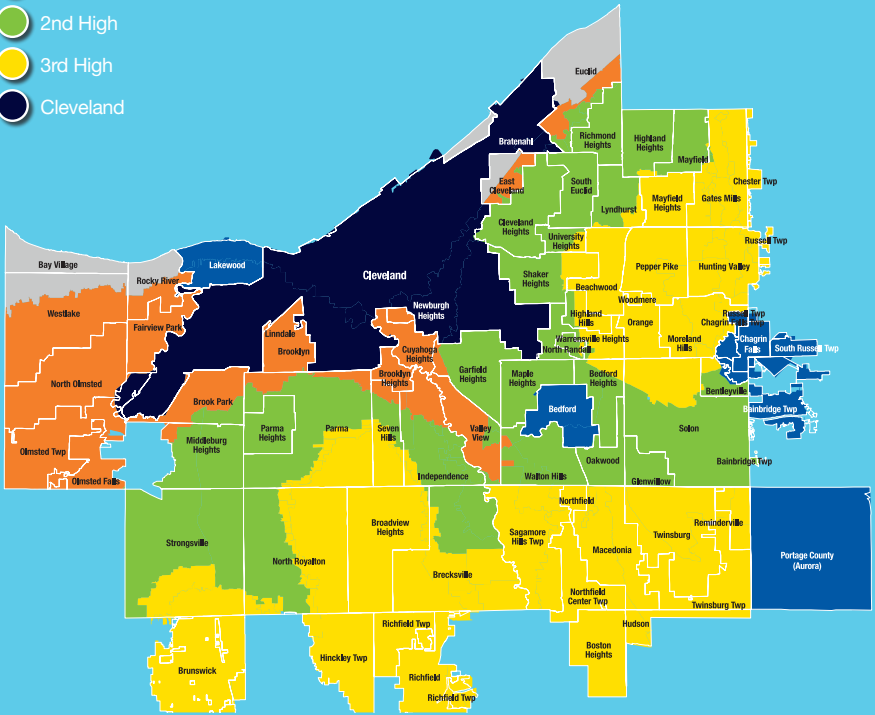
# LEGEND

## City & Suburbs

 Corporation Limits

## Service Suburbs

-  Low Service
-  1st High
-  2nd High
-  3rd High
-  Cleveland



Cleveland Water employees' commitment to providing economical, high quality drinking water is reflected in this 2018 Water Quality Report. We are in compliance with all Maximum Contaminant Levels and Treatment Techniques for drinking water. We had no Safe Drinking Water Act violations in 2018. We have included with this report general health information, water quality test results, information on how to participate in decisions concerning your drinking water, and water system contacts.

Cover photo courtesy of LAND Studios

**Cleveland Water** is one of the largest public water systems in the United States. Every day, we treat and deliver up to 300 million gallons of water to more than 1.4 million people and thousands of businesses, schools, churches and recreation centers in the 80 communities we serve in Cuyahoga County and parts of four surrounding counties – Geauga, Medina, Portage and Summit.

The health and safety of our customers is our number one priority. We use the latest monitoring equipment and technology to ensure our system is providing you with healthy and great tasting water. At Cleveland Water, we continuously monitor more than 20,000 parameters in the water treatment process to ensure each of our four plants is functioning properly. We also collect more than 350 samples each month from our distribution system and perform over 160,000 tests each year to ensure proper treatment and disinfection in order to keep our customers safe.

**Our commitment to providing the highest quality water every day includes:**

- Monitoring source water at multiple locations in Lake Erie through sensors on buoys that extend from the surface down through the water column.
- Leading Ohio's public water systems in the partnership with the National Oceanic and Atmospheric Administration and research groups to develop a Lake Erie Hypoxia Forecast Model.
- Monitoring source water through sondes in our water intake tunnels.
- Testing water after each step in the treatment process.
- Chemically analyzing and taste-testing finished water before it is pumped to customers.
- Controlling water's pH and adding orthophosphate to finished water to limit pipe corrosion and reduce the potential for lead exposure if lead exists in a customer's service line or home plumbing.
- Analyzing water samples taken from diverse locations throughout the entire distribution system to ensure they meet all Safe Drinking Water standards.

## Lake Erie – Our Source Water and Assessment

Cleveland draws source water from four intakes located far offshore in Lake Erie's Central Basin. These intakes are spread out over 15 miles and are each 3 to 5 miles offshore where the water is cleaner and has been minimally impacted from tributary runoff and coastal activities. Lake Erie is a surface water source. Cleveland Water also has interconnections with other area water systems, but these are for emergency use only. These interconnections are designed for Cleveland Water to assist other water systems if needed. We received no emergency water in 2018.

Water enters Lake Erie from precipitation over the lake and watershed. Precipitation on land, runs off and flows down streams and rivers into our source water. About 90% of the water entering Lake Erie flows down the Detroit River from Lake St. Clair; another 4% drains from the Maumee River. Both rivers flow into the lake's shallow Western Basin. The remaining runoff drains through dozens of rivers and small streams into the lake. Ohio's portion of the Lake Erie Watershed drains 11,649 square miles and is home to 4.65 million people.

The state of Ohio performed an assessment of our four source water intakes in the late 1990s. A Drinking Water Source Assessment Report was completed in 2003. For the purposes of source water assessments, all surface waters are considered to be susceptible to contamination. By their nature, surface waters are accessible and can be easily contaminated by chemicals and pathogens from an upstream spill. Because Cleveland Water's intakes are located a considerable distance offshore, potential contamination from the Cuyahoga River and nearshore sources is minimized to a great degree. As a result, Ohio EPA considers Cleveland Water's source water (Lake Erie) to have a low susceptibility to contamination due to the location of our intakes.

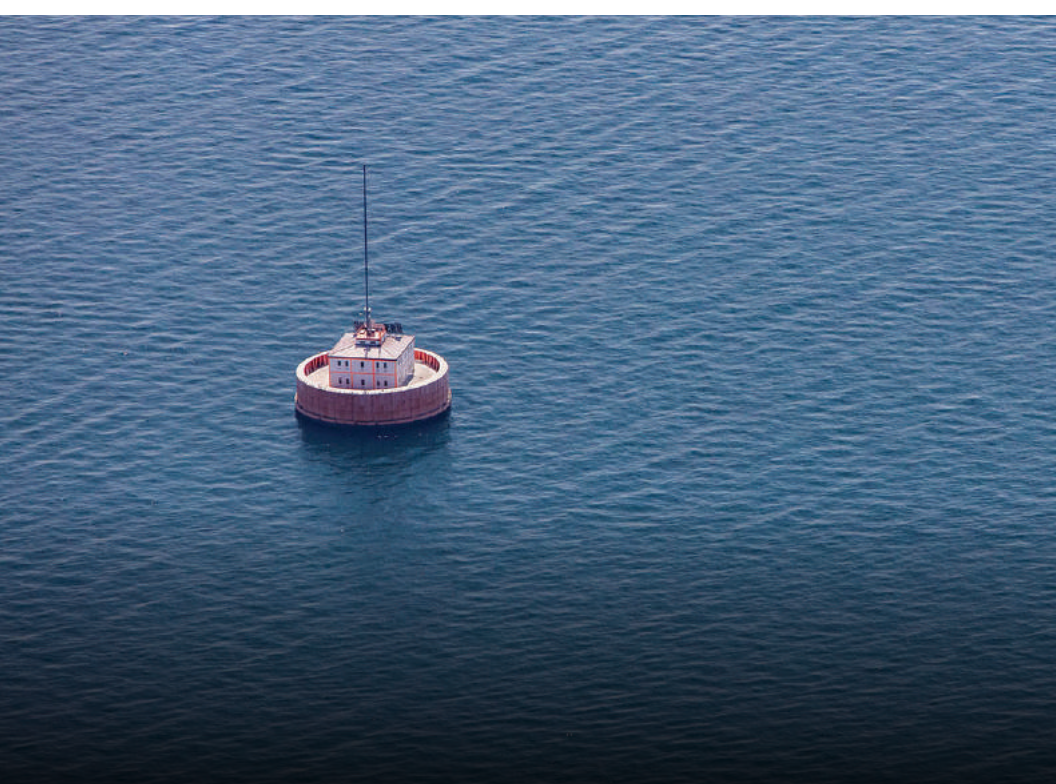
The Cleveland Water public water system treats the water to meet drinking water quality standards, but no single treatment technique can address all potential contaminants. To address this, Cleveland Water uses the multiple barrier approach for protecting and treating our source water. The benefit of multiple barriers is that if any one process fails, the other processes will still provide the required protection. Protection of source water is one of the barriers we use. The potential for water quality impacts can be further decreased by implementing measure to protect Lake Erie. More detailed information is provided in the Cleveland Water Drinking Water Source Assessment Report which can be obtained by calling our Risk Management Section at 216-664-2444 x75838.

## What to expect from Public Water Systems in the United States

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 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 Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

In order to ensure that 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 for public health.







The Garrett Morgan Water Treatment Plant was the site of the 2018 Drinking Water Week Open House. This annual event held the second Saturday of May allows customers to meet our dedicated employees and learn what it takes to make clean water and deliver it to your tap.

## **Cleveland Water treats source water to remove contaminants.**

### **Contaminants that may be present in source water include:**

- (A) Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife;
- (B) 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;
- (C) Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;
- (D) 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 stormwater runoff, and septic systems;
- (E) 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 infection. These people should seek advice about drinking water from their health care providers. US EPA/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 (1-800-426-4791).

The EPA requires regular sampling to ensure drinking water safety. Cleveland Water conducted sampling for bacteria, inorganic, synthetic organic, and volatile organic contaminants during 2018. We were not required to monitor for radiological parameters in 2018. During the year, more than 160,000 samples were analyzed for different and specific contaminants, most of which were not detected in the Cleveland water supply. The Ohio EPA requires us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, are more than one year old.





**Cleveland Water** is in compliance with all Maximum Contaminant Levels and Treatment Techniques for drinking water. We had no Safe Drinking Water Act Violations in 2018. Based on our excellent compliance record, Cleveland Water had a 2018 unconditioned license to operate our water system. The license is issued by the Ohio Environmental Protection Agency.

Across the United States, more than 170,000 public water systems provide water to 90% of Americans by following U.S. EPA Safe Drinking Water Act regulations that require testing and elimination of more than 90 potential water contaminants. EPA sets limits for contaminants based on levels that protect human health and that water systems can achieve using the best available technology. EPA rules establish water-testing schedules and methods that water systems must follow. EPA also updates rules and regulations regularly, as new technology becomes available.

Cleveland Water met or surpassed all treated water standards in 2018, yet we hold ourselves to a higher standard. Each of our water treatment plants has achieved advanced levels in the national Partnership for Safe Water. The Partnership is a voluntary effort between six drinking water organizations and more than 300 water utilities. The partnership's goal is to optimize treatment plant performance and distribution system operations beyond what regulations require. The result is the production and delivery of superior quality water to all users. Each of our plants has to be recertified annually. The Phase III: Self-Assessment Completion Report for the Directors Award and the Phase IV: Fully Optimized System exclusive Excellence in Water Treatment Award are the highest certifications that can be achieved.

### **Water Treatment Plant Level and year achieved**

**Crown:** Phase 3 certification 2004 to present.  
Phase 4 certification 2014 to present.

**Garrett Morgan:** Phase 3 certification 2004 to present.

**Baldwin:** Phase 3 certification 2006 to present.

**Nottingham:** Phase 3 certification 1997 to present.





## DEFINITIONS OF SOME TERMS CONTAINED WITHIN THIS REPORT

**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.

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

**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 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.

**Parts per Million (ppm) or milligrams per Liter (mg/L):** Units of measure for concentration of a contaminant. A part per million corresponds to one second in a little over 11.5 days.

**Parts per Billion (ppb) or micrograms per Liter (µg/L):** Units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.

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

- For lead, the action level is exceeded if the concentration of lead in more than 10% of tap water samples collected during a monitoring period is greater than 0.015 ppm, i.e., if the 90th percentile lead level is at or greater than 0.015 ppm.
- For copper, the action level is exceeded if the concentration of copper in more than 10% of the tap samples collected during a monitoring period is at or greater than 1.3 ppm.

**Lead Threshold Level (LTL):** The concentration of lead in an individual tap water sample that is at or greater than 0.015 ppm.

**Treatment Technique (TT):** A method for treating water to achieve acceptable levels of the contaminants in lieu of establishing a maximum containment level.

**Turbidity:** 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.

**The “<” symbol:** A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.





## TABLE OF DETECTED CONTAMINANTS

New in this 2018 report, Cleveland Water is presenting water quality data for each of our four treatment plants in individual tables. The sample results in each table were either collected during 2018 or were used for compliance in 2018. Collectively, our four water treatment plants had no contaminant violations for 2018. Typical sources of contaminants are shown in brackets below the contaminant. TTHMs, HAA5s, and TOC also include 9 months of 2017 data as required for the compliance calculations.

## UNREGULATED CONTAMINANTS

Unregulated contaminants are substances for which USEPA has no established drinking water standard. USEPA requires us to monitor in order to determine where certain substances occur and whether USEPA needs to regulate those substances in the future. You can learn about the Unregulated Contaminant Monitoring Rule (UCMR) on the USEPA website: [epa.gov/dwucmr](http://epa.gov/dwucmr). Each water treatment plant's Table of Detected Contaminants includes available monitoring results for UCMR 4 data.

## WHAT'S NOT IN YOUR WATER

Cleveland Water performs thousands of tests each year to ensure drinking water quality. Many substances that we test for do not appear in this report because they were not found in your drinking water. Other parameters not required to be in the annual Water Quality Report are available if requested. A copy of this document, called the Average Chemical Values Summary for 2018, is available by calling the Water Quality Line at 216-664-2639 or by going to the Water Quality page at [clevelandwater.com/your-water/water-quality-and-treatment/water-quality](http://clevelandwater.com/your-water/water-quality-and-treatment/water-quality).

### The abbreviations below apply to all water quality reporting tables

AL = Action Level

MCL = Maximum Contaminant Level

MCLG = Maximum Contaminant Level Goal

NTU = Nephelometric Turbidity Units

MRDL = Maximum Residual Disinfectant Level

MRDLG = Maximum Residual Disinfectant Level Goal

n/a = not applicable

ND = Not Detected

ppm = parts per million; or milligrams per liter (mg/L)

ppb = parts per billion; or micrograms per liter (µg/L)

< = a symbol which means less than. A result of <5 means the lowest level that can be detected is 5 and the contaminant in that sample was not detected.

TT = Treatment Technique

Cleveland Water's Crown Water Treatment Plant was placed into service in 1958 to provide water to the growing west side suburbs. Located in Westlake, the Crown plant is the only treatment facility not located in the city of Cleveland. As one of only 20 Partnership for Safe Water Level 4 certified plants in the country, Crown continues to optimize operational designs and enhance water production to lead the industry in providing safe drinking water to the public. The plant produces an average of 39 million gallons of water per day. The Crown Water Treatment Plant had no contaminant violations in 2018.



# C R O W N   W A T E R   T R E A T M E N T   P L A N T

Monitored in 2018. There were no violations.

Contaminants (Units) <small>[Typical Sources in Drinking Water]</small>		MCLG	MCL	Level Found	Range of Detections	Violation
<b>Microbiological</b>	<b>Turbidity (NTU)</b> <small>[Soil runoff]</small>	n/a	TT* ( $< 1$ NTU)	0.07	0.04 - 0.07	No
	<b>Turbidity (% meeting standard)</b> <small>[Soil runoff]</small>	n/a	TT* (%)	100% compliant	n/a	No
<b>Inorganic</b>	<b>Fluoride (ppm)</b> <small>[Water additive which promotes strong teeth]</small>	4	4	0.99	0.82 - 1.03	No
	<b>Nitrate as Nitrogen (ppm)</b> <small>[Runoff from farm fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits]</small>	10	10	0.54	0.12 - 0.54	No
<b>Organic</b>	<b>TTHMs (ppb)</b> <small>[Total Trihalomethanes are a by-product of drinking water chlorination]</small>	n/a	80	35.32	11 - 52.3	No
	<b>HAA5 (ppb)</b> <small>[Haloacetic Acids are a by-product of drinking water chlorination]</small>	n/a	60	19.5	6.4 - 35.4	No
	<b>Total Organic Carbon**</b> <small>[Naturally present in the environment]</small>	n/a	TT**	1.18	1.07 - 1.43	No
<b>Disinfectant</b>	<b>Total Chlorine (ppm)</b> <small>[Water additive used to control microbes]</small>	MRDLG	MRDL	1.06	1.00 - 1.11	No
		4	4			
<b>Unregulated Contaminants</b>	<b>Manganese (ppb)#</b> <small>[an element that is naturally occurring in water]</small>	n/a	n/a	0.502	n/a	n/a
	<b>Bromodichloromethane (ppb)</b> <small>[Byproduct of drinking water disinfection]</small>	n/a	n/a	4.65	n/a	n/a
	<b>Chloroform (ppb)</b> <small>[Byproduct of drinking water disinfection]</small>	n/a	n/a	3.98	n/a	n/a
	<b>Dibromochloromethane (ppb)</b> <small>[Byproduct of drinking water disinfection]</small>	n/a	n/a	2.11	n/a	n/a

\*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.

\*\* 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.

# This contaminant was detected during Phase 4 of the Unregulated Contaminant Monitoring Rule (UCMR4), in which Cleveland Water is required to participate. Additional contaminants were monitored and not detected. If you would like additional information on results of unregulated contaminant monitoring, please call our Water Quality line at 216-664-2639.



Cleveland Water's Garrett Morgan Water Treatment Plant was placed into service in 1916 to provide filtered and chlorinated water for the first time to the westside of Cleveland. Originally named the Division Avenue Pumping and Filtration Plant, it was constructed on the site where the water system originated in 1856. Today the plant, where the Detroit Shoreway and Ohio City neighborhoods meet, produces an average of 44 million gallons of water per day. The Morgan Water Treatment Plant had no contaminant violations in 2018.





# MORGAN WATER TREATMENT PLANT

Monitored in 2018. There were no violations.

	Contaminants (Units) <small>[Typical Sources in Drinking Water]</small>	MCLG	MCL	Level Found	Range of Detections	Violation
Microbiological	<b>Turbidity (NTU)</b> <small>[Soil runoff]</small>	n/a	TT* ( $< 1$ NTU)	0.17	0.04 - 0.17	No
	<b>Turbidity (% meeting standard)</b> <small>[Soil runoff]</small>	n/a	TT* (%)	100% compliant	n/a	No
Inorganic	<b>Fluoride (ppm)</b> <small>[Water additive which promotes strong teeth]</small>	4	4	1.07	0.66 - 1.24	No
	<b>Nitrate as Nitrogen (ppm)</b> <small>[Runoff from farm fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits]</small>	10	10	0.54	0.11 - 0.54	No
Organic	<b>TTHMs (ppb)</b> <small>[Total Trihalomethanes are a by-product of drinking water chlorination]</small>	n/a	80	35.32	11 - 52.3	No
	<b>HAA5 (ppb)</b> <small>[Haloacetic Acids are a by-product of drinking water chlorination]</small>	n/a	60	19.5	6.4 - 35.4	No
	<b>Total Organic Carbon**</b> <small>[Naturally present in the environment]</small>	n/a	TT**	1.21	1.13 - 1.53	No
Disinfectant	<b>Total Chlorine (ppm)</b> <small>[Water additive used to control microbes]</small>	MRDLG	MRDL	1.14	1.07 - 1.17	No
		4	4			
Unregulated Contaminants	<b>Manganese (ppb)*</b> <small>[an element that is naturally occurring in water]</small>	n/a	n/a	1.92	n/a	n/a
	<b>Bromodichloromethane (ppb)</b> <small>[Byproduct of drinking water disinfection]</small>	n/a	n/a	2.25	n/a	n/a
	<b>Chloroform (ppb)</b> <small>[Byproduct of drinking water disinfection]</small>	n/a	n/a	1.33	n/a	n/a
	<b>Dibromochloromethane (ppb)</b> <small>[Byproduct of drinking water disinfection]</small>	n/a	n/a	1.57	n/a	n/a

\*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.

\*\* 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.

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Cleveland Water's Baldwin Water Treatment Plant and Reservoir were placed into service in 1925 to provide filtered and chlorinated water for the first time to all Cleveland Water customers. Today the plant, south of the University Circle neighborhood, produces an average of 67.5 million gallons of water per day. It is the only plant that has a visible raw water intake on the lake, referred to as the 5-Mile Crib. The Baldwin Water Treatment Plant had no contaminant violations in 2018.



# BALDWIN WATER TREATMENT PLANT

Monitored in 2018. There were no violations.

Contaminants (Units) <small>[Typical Sources in Drinking Water]</small>		MCLG	MCL	Level Found	Range of Detections	Violation
Microbiological	<b>Turbidity (NTU)</b> <small>[Soil runoff]</small>	n/a	TT* ( $< 1$ NTU)	0.1	0.02 - 0.1	No
	<b>Turbidity (% meeting standard)</b> <small>[Soil runoff]</small>	n/a	TT* (%)	100% compliant	n/a	No
Inorganic	<b>Fluoride (ppm)</b> <small>[Water additive which promotes strong teeth]</small>	4	4	1.08	0.82 - 1.28	No
	<b>Nitrate as Nitrogen (ppm)</b> <small>[Runoff from farm fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits]</small>	10	10	0.99	0.11 - 0.99	No
Organic	<b>TTHMs (ppb)</b> <small>[Total Trihalomethanes are a by-product of drinking water chlorination]</small>	n/a	80	35.32	11 - 52.3	No
	<b>HAA5 (ppb)</b> <small>[Haloacetic Acids are a by-product of drinking water chlorination]</small>	n/a	60	19.5	6.4 - 35.4	No
	<b>Total Organic Carbon**</b> <small>[Naturally present in the environment]</small>	n/a	TT**	1.18	1.13 - 1.71	No
Disinfectant	<b>Total Chlorine (ppm)</b> <small>[Water additive used to control microbes]</small>	MRDLG	MRDL	1.13	1.03 - 1.18	No
		4	4			
Unregulated Contaminants	<b>Manganese (ppb)*</b> <small>[an element that is naturally occurring in water]</small>	n/a	n/a	0.476	n/a	n/a
	<b>Bromodichloromethane (ppb)</b> <small>[Byproduct of drinking water disinfection]</small>	n/a	n/a	3.92	n/a	n/a
	<b>Chloroform (ppb)</b> <small>[Byproduct of drinking water disinfection]</small>	n/a	n/a	3.07	n/a	n/a
	<b>Dibromochloromethane (ppb)</b> <small>[Byproduct of drinking water disinfection]</small>	n/a	n/a	2	n/a	n/a

\*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.

\*\* 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.

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Cleveland Water's Nottingham Water Treatment Plant was placed into service in 1951 to meet increased demands by post-war growth of the eastside suburbs. Today the plant produces an average of more than 57 million gallons of water per day. The Nottingham Water Treatment Plant, in the Collinwood neighborhood, had no contaminant violations in 2018.





# NOTTINGHAM WATER TREATMENT PLANT

Monitored in 2018. There were no violations.

Contaminants (Units) <small>[Typical Sources in Drinking Water]</small>		MCLG	MCL	Level Found	Range of Detections	Violation
<b>Microbiological</b>	<b>Turbidity (NTU)</b> <small>[Soil runoff]</small>	n/a	TT* ( $< 1$ NTU)	1.03	0.02 - 1.03	No
	<b>Turbidity (% meeting standard)</b> <small>[Soil runoff]</small>	n/a	TT* (%)	99.44% compliant	n/a	No
<b>Inorganic</b>	<b>Fluoride (ppm)</b> <small>[Water additive which promotes strong teeth]</small>	4	4	1.01	0.8 - 1.14	No
	<b>Nitrate as Nitrogen (ppm)</b> <small>[Runoff from farm fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits]</small>	10	10	0.57	0.11 - 0.57	No
<b>Organic</b>	<b>TTHMs (ppb)</b> <small>[Total Trihalomethanes are a by-product of drinking water chlorination]</small>	n/a	80	35.32	11 - 52.3	No
	<b>HAA5 (ppb)</b> <small>[Haloacetic Acids are a by-product of drinking water chlorination]</small>	n/a	60	19.5	6.4 - 35.4	No
	<b>Total Organic Carbon**</b> <small>[Naturally present in the environment]</small>	n/a	TT**	1.27	1.14 - 1.52	No
<b>Disinfectant</b>	<b>Total Chlorine (ppm)</b> <small>[Water additive used to control microbes]</small>	MRDLG	MRDL	1.13	1.07 - 1.17	No
		4	4			
<b>Unregulated Contaminants</b>	<b>Manganese (ppb)#</b> <small>[an element that is naturally occurring in water]</small>	n/a	n/a	3.8	n/a	n/a
	<b>Bromodichloromethane (ppb)</b> <small>[Byproduct of drinking water disinfection]</small>	n/a	n/a	2.99	n/a	n/a
	<b>Chloroform (ppb)</b> <small>[Byproduct of drinking water disinfection]</small>	n/a	n/a	1.89	n/a	n/a
	<b>Dibromochloromethane (ppb)</b> <small>[Byproduct of drinking water disinfection]</small>	n/a	n/a	1.63	n/a	n/a

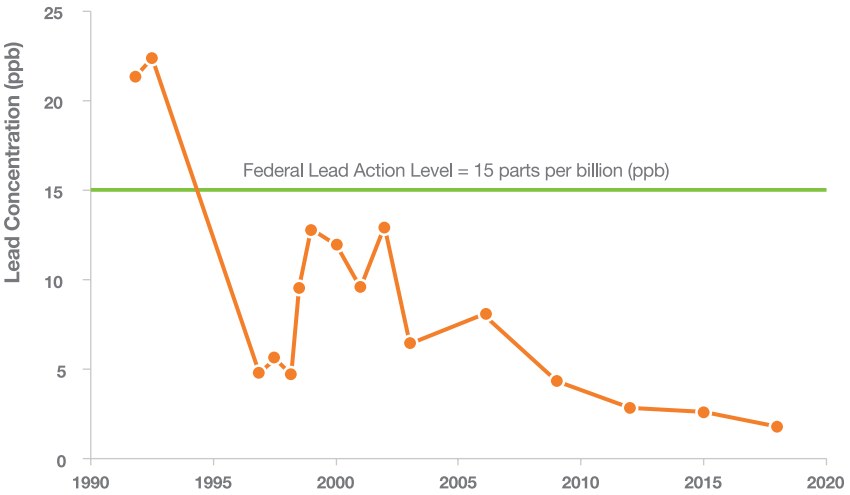
\*Turbidity is a measure of the cloudiness of water and an indication of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.3 NTU in 95% of the samples analyzed each month and shall not exceed 1 NTU at any time for each of our water treatment plants. By rule, this value includes turbidity results up to 1.44 NTU because of rounding. As reported above, Cleveland Water's highest recorded treated water turbidity result for 2018 was 1.03 NTU and the lowest monthly percentage of samples meeting the turbidity limits was 99.44%.

\*\* 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.

# This contaminant was detected during Phase 4 of the Unregulated Contaminant Monitoring Rule (UCMR4), in which Cleveland Water is required to participate. Additional contaminants were monitored and not detected. If you would like additional information on results of unregulated contaminant monitoring, please call our Water Quality line at 216-664-2639.

## LEAD AND COPPER MONITORING

Between 1994 and 1997, Cleveland Water upgraded each of our treatment plants to optimize corrosion control in our water distribution system. The treatment upgrades enabled our plants to add orthophosphate to the finished water and to keep the pH of water above 7 at all times. **The graphed orange line shows our lead compliance monitoring results since we began testing.** The graph also shows how lead levels have dropped and have stayed below the federal lead action level since we implemented our corrosion control treatment techniques more than 20 years ago.



Cleveland Water regularly monitors for lead and copper from homes in the Cleveland Water distribution system that meet Tier 1 requirements (i.e. lead in their plumbing system). The results shown below are the most recent compliance results from water samples taken June-September 2018. There were no violations or lead or copper action level exceedances in 2018.

YEAR Sampled - Contaminant (Units) [Typical Sources in Drinking Water]		AL	Individual Results over AL	90% of test levels were less than	Violation
Lead and Copper	2018 - Copper (ppm)* [Corrosion of household plumbing systems; Erosion of natural deposits]	1.3 ppm	0	0.11 ppm	No
		0 out of 55 samples had levels in excess of the copper action level of 1.3 mg/L			
	2018 - Lead (ppb)* [Corrosion of household plumbing systems; Erosion of natural deposits]	15 ppb	0	1.84 ppb	No
		0 out of 55 samples had levels in excess of the lead action level of 15 ppb			

\* Samples collected June-September 2018

Cleveland Water implements a Lead Awareness Campaign to meet a portion of the notification requirements in Ohio Administrative Code Rule 3745-83-02. Our education materials include brochures, flyers, videos, social media posts and graphics, and can be found online at [clevelandwater.com/lead](http://clevelandwater.com/lead) or by calling our Lead Inquiry Line at 216-664-2882 to request printed copies and/or a group presentation.

## Keep Your Home's Water Healthy

**Flush, Clean and Consume Cold** are the actions all customers should implement to help ensure the highest quality of water is coming out of your tap, especially if there is the possibility of lead in your plumbing system. In some situations, a water system repair/replacement may temporarily increase lead levels in water and/or cause discoloration. As a standard practice, the USEPA recommends to take these actions (flush, clean, consume cold) when water has been restored after a disruption of service.



### FLUSH

Flush your cold water lines before consuming water when water has not been used for 6 or more hours. The goal is to have cold, fresh water from the main in the street come out of your tap before drinking the water. To flush the plumbing, run water until you feel a temperature change then run water for an additional 30 seconds to 3 minutes. The time depends on the length of your service line. **When in doubt, flush it out.**



### CLEAN

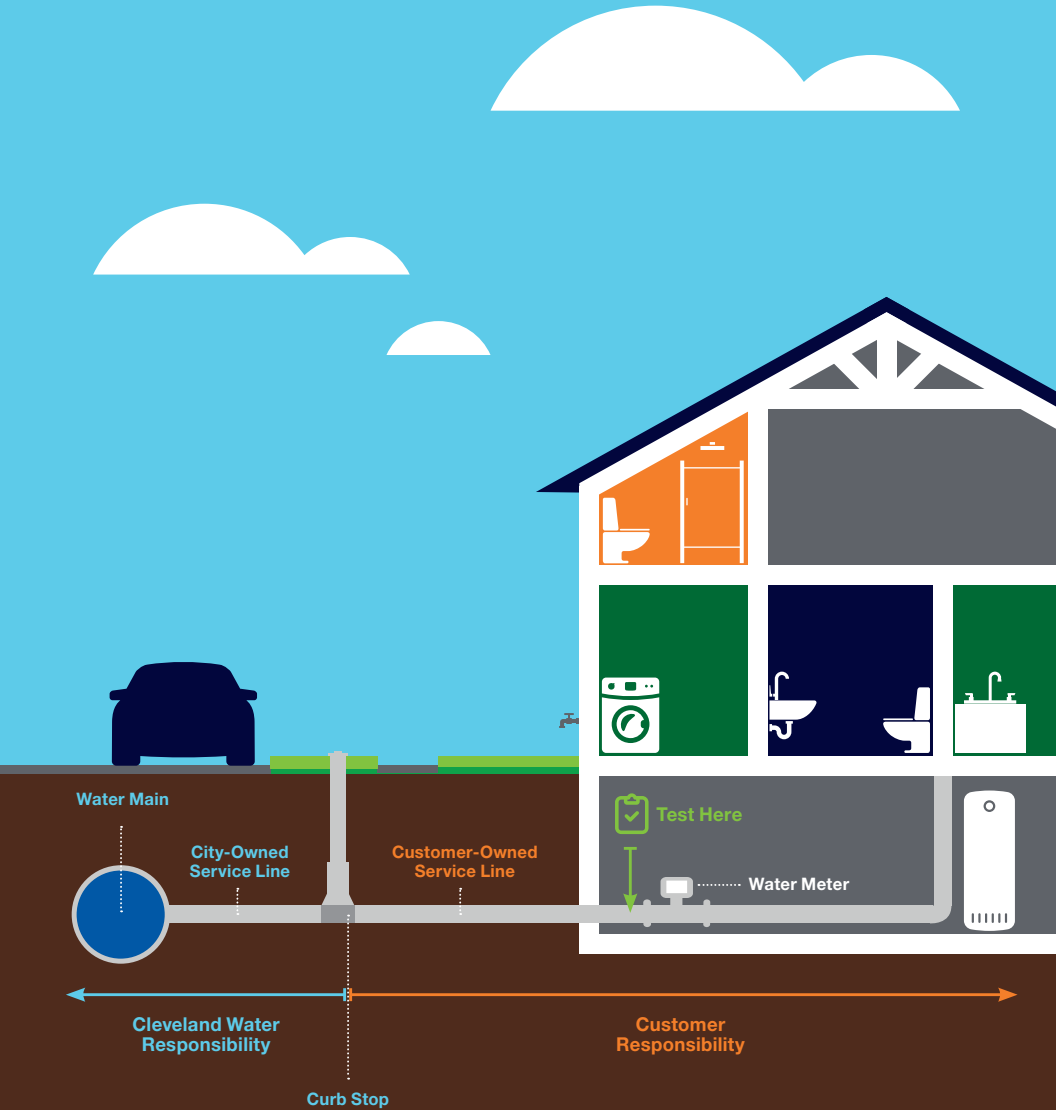
Clean your faucet aerator screens regularly. Small particles of solder and other material can accumulate in faucet aerators and in some circumstances can release lead into the water. Aerators should be cleaned at least twice a year, and more frequently after work has been done to your plumbing system.



### CONSUME COLD

Always use cold water for cooking, drinking and preparing baby formula. Hot water corrodes pipes faster and is more likely to contain lead. If you need hot water for food or drinks, get water from the cold water tap then heat the water.





## Cleveland Water Lead Compliance Monitoring Levels

Cleveland Water is virtually lead free when it leaves our treatment plants. Our water mains are not made from lead. Lead can be present in service lines and in customers' plumbing, faucets and fixtures. Not all customers have lead in their service line or plumbing system.

To understand your family's potential for having lead in your home's service line, plumbing or faucets:



### CHECK

Check the type of material of your city-owned service line online at [clevelandwater.com/lead](http://clevelandwater.com/lead).



### TEST

Test your service line material. Our video shows you how. It is at [youtube.com/watch?v=AiU7GHZD\\_Ck](https://youtube.com/watch?v=AiU7GHZD_Ck). If a magnet sticks to the service line, it's galvanized steel. If you scratch the pipe with a penny and the metal is shiny like a penny, it is copper. If the scratched metal is shiny silver and flakes off, it is lead. You can record your results online at [clevelandwater.com/lead](http://clevelandwater.com/lead).



### DATE

The date plumbing components in your home were made/installed is important. Homes built after 1954 should not have a lead service line or lead plumbing. Before 1986, the level of lead in solder used to join copper pipes was usually 50%. In 1986, the allowable level of lead in solder was reduced to less than 0.2% and the allowable level of lead in brass components in potable water faucets was reduced to less than 8%. In 2014, the allowable level of lead in brass alloy used for potable water faucets, fittings and meters was reduced to less than 0.25%.

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. Cleveland Water 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 3 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. A list of laboratories certified in the state of Ohio to test for lead may be found at <http://www.epa.ohio.gov/ddagw> or by calling 614-644-2752. 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 at <http://www.epa.gov/safewater/lead>





## **PUBLIC PARTICIPATION**

Cleveland Water does not hold regular public meetings. However, the public may participate through attending the Public Utilities Committee meetings. Meetings are held every other Tuesday at 1:30 pm at Cleveland City Hall. Check the City of Cleveland website for meeting information.

## **QUESTIONS**

- To learn more about Cleveland Water visit [clevelandwater.com](http://clevelandwater.com)
- Questions about information contained in this report should be directed to our Water Quality Line: 216-664-2639.
- Questions about lead in drinking water and our prevention and lead mapping efforts should be directed to our Lead Inquiry Line: 216-664-2882.
- To request a speaker for your event or group, contact our Public Education and Outreach Team: 216-664-3173.

## **ONGOING ACTIONS TO IMPROVE DRINKING WATER QUALITY**

- Working with federal and state partners to better understand and predict Lake Erie water quality.
- Planning improvements to water intake infrastructure to be able to isolate higher quality raw water based on water depth.
- Sharing source water quality information with other Lake Erie water systems, which allows for early notice when less than desirable water quality may be headed toward water intakes.
- Reaching out to health agencies, civic groups and schools on the importance of water, high quality drinking water, and protecting our great fresh water resource, Lake Erie.
- Implementing a \$26 million annual water main replacement program to help ensure consistent delivery, pressure, and quality.
- Removing lead service lines during water main replacement projects and whenever lead service lines are disturbed during water main repairs.
- Encouraging local communities to flush hydrants regularly to ensure proper functioning and maintenance.

## PLEASE SHARE THIS INFORMATION

Cleveland Water is committed to providing our 1.4 million customers a reliable supply of safe, quality drinking water. Every day we take action to ensure every drop that travels through our 5,300 miles of mains is water that we would serve to our families.

In 2018, Cleveland Water surpassed all federal and state standards for water quality, the data for which is presented in this report.

Please share this information with all other people who drink Cleveland Water, especially those who may not have received this Water Quality Report directly (for example, people in apartments, nursing homes, schools and businesses). You can do this by posting the report in a public place or distributing copies by hand or in the mail. This report is also available online: [clevelandwater.com/2018WQR](http://clevelandwater.com/2018WQR)



### ***Cleveland Water***

1201 Lakeside Avenue • Cleveland, Ohio 44114  
216.664.2444 | [clevelandwater.com](http://clevelandwater.com)



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