

# 2020 WATER QUALITY REPORT

CITY OF AURORA, ILLINOIS



## Water Production Division - Reporting Year 2020

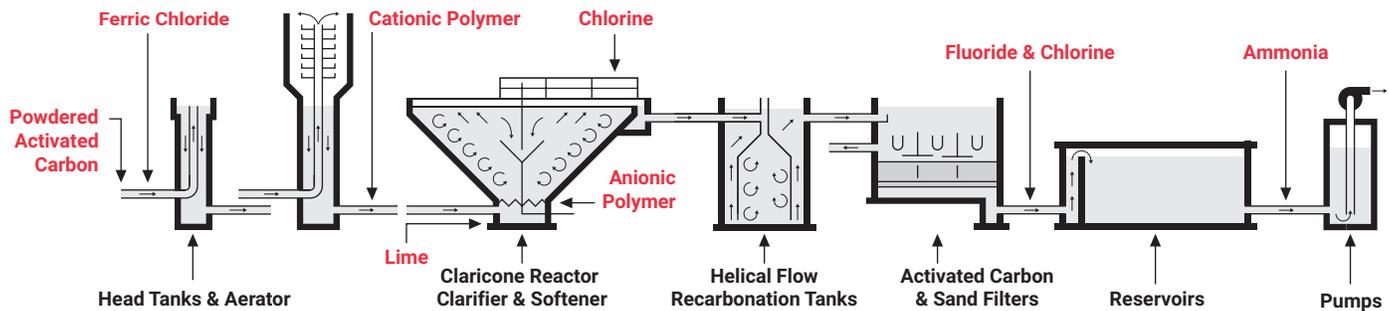
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Una versión en español este informe está disponible  
en [www.aurora-il.org/950/water-production](http://www.aurora-il.org/950/water-production)

*This report is intended to provide you with important information about your drinking water and the efforts made by the City of Aurora Water Production Division to provide safe drinking water.*

In order to ensure that tap water is safe to drink, the Water Production Division staff works around the clock to maintain the high quality and safety of Aurora's award-winning tap water. The U.S. Environmental Protection Agency (U.S. EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water supply systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. To confirm that your tap water meets U.S. EPA regulations, we regularly submit water samples for laboratory analysis. This report summarizes contaminants found in testing during 2020. No drinking water quality violations were recorded during 2020 for the City of Aurora. All monitoring and reporting requirements were also met.

## PROCESS FLOW DIAGRAM - AURORA WATER TREATMENT FACILITY



## SOURCE WATER

### Assessment Summary

The source water assessment for the City of Aurora was completed by the Illinois Environmental Protection Agency (IEPA) in 2003. This assessment, and other informational requests, can be addressed by calling the Water Production Division at (630) 256-3250. To view a summary of the completed Source Water Assessment, including: Importance of Source Water; Susceptibility to Contamination Determination; and documentation/recommendation of Source Water Protection Efforts, you may access the IEPA website at [www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl](http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl). The Fox River water source is considered vulnerable to contamination. IEPA considers all surface water sources of community water supply to be susceptible to potential contamination. Therefore certain treatment processes are mandatory for all surface water supplies in Illinois. These include coagulation, sedimentation, filtration, and disinfection, all of which are provided by Aurora.

IEPA has determined Aurora's shallow well water source is susceptible to volatile organic chemical (VOC) and synthetic organic chemical (SOC) contamination based on the unconfined nature of the sand and gravel aquifer and proximity of potential sources of contamination. As such, the IEPA has provided a 5-year capture zone delineation for this source. The deep well water source is not susceptible to inorganic chemicals (IOC), VOC, or SOC contamination. This determination is based on monitoring conducted at the wells, monitoring conducted at the entry point to the distribution system, and the available hydrogeologic data for the wells.

## CITY OF AURORA

### Water Production Division

Sources of water for the Aurora Water Treatment Plant include surface water from the Fox River and a blend of water from several shallow wells and deep wells, which draw from the Cambrian-Ordovician Aquifer system.

**Plant Capacity:** The Aurora Water Treatment Plant is capable of fully treating 36.5 million gallons of water per day.

**Treatment and Distribution System:** Well water is pumped to the plant through a collector line where it is combined with Fox River water. The water is then lime-softened, fluoridated, filtered, disinfected and discharged into reservoirs with a total storage capacity of 6 million gallons. From there, the water is pumped into the distribution system by pumps located at the plant. Next, the water travels through a series of pipes ranging in size from 4 inches to 36 inches in diameter on its way to your tap. Nine storage tanks located throughout the city provide 17.5 million gallons of storage and maintain adequate pressure.

### Tap Water Information

- Has a pH level of 8.9-9.2 and a chloramine disinfectant residual of 2-3 mg/liter
- Has an average hardness of 120 -140 mg/liter (7-8 grains per gallon)
- Has a fluoride content of 0.7 mg/liter as required by the Illinois Department of Public Health



## DEFINITION OF TERMS\*

### for Water Quality Test Results

#### 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 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 Residual Disinfectant 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.

#### 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.

#### Action Level Goal (ALG):

The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

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

**ppm or mg/L:** one ounce in 7,350 gallons of water – or parts per million or milligrams per liter.

**ppb or ug/L:** one ounce in 7,350,000 gallons of water – or parts per billion or micrograms per liter.

**pCi/L:** picoCuries per Liter - measurement of radioactivity.

**NTU:** Nephelometric Turbidity Unit – measurement of solids in water.

**N/A:** not applicable.

**Oocysts/L:** The number of Cryptosporidium organisms per Liter of water tested.

**Treatment Technique:** A required process intended to reduce the level of a contaminant in drinking water.

*\*shown on next page*



## PARTNERSHIP FOR SAFE WATER

### Presidents Award

The City of Aurora is proud to recognize the achievement of the Aurora Water Production Division in providing some of the nation's safest, cleanest drinking water to the city's residents.

The Aurora Water Production Division has been honored with the Presidents Award from the Partnership for Safe Water, a national initiative to improve the quality of drinking water. The Aurora Water Treatment Facility is one of about 70 surface water treatment plants nationwide to achieve and document the exceptional water quality required to earn the Presidents Award. This places the Aurora Water Treatment Facility in the top half of the top 1 percent of surface water treatment plants in the United States.

The optimization of individual filter performance is a key water quality performance goal of the Partnership for Safe Water's Treatment Plant Optimization program. The Presidents Award recognizes the highest possible and most stringent level of individual filter performance and is an outstanding achievement.



## WATERSENSE PROGRAM

### United States EPA

The City of Aurora is a partner in the U.S. EPA's WaterSense program, which is a voluntary nationally recognized program that promotes water conservation and efficiency. The program also provides reliable information on water efficient products and practices. Look for the WaterSense label on products which will be 20% more efficient and perform as well or better than conventional products. To find more information go to the WaterSense website at <http://www.epa.gov/watersense>.

## CONTAMINANTS THAT MAY BE PRESENT IN SOURCE WATER

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. Water can also pick up substances resulting from the presence of animals or from human activity.

**Pesticides and herbicides** which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

**Microbial contaminants** such as viruses, protozoa, and bacteria, which may come from wastewater treatment plants, septic systems, agricultural livestock operations, and wildlife.

**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 storm water runoff, and septic systems.

**Inorganic contaminants**, such as salts and metals, which may occur naturally or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

**Radioactive contaminants**, which may occur naturally or result from oil and gas production and mining activities.

In order to ensure tap water is safe to drink, the U.S. EPA prescribes regulations that limit the amount of certain contaminants in water produced by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

*We want our valued customers to be informed about their water quality. If you would like to learn more, please contact the Water Production Division at 630-256-3250, visit the Water Production Division's webpage: [www.aurora-il.org/950/water-production](http://www.aurora-il.org/950/water-production), or attend a regularly scheduled city committee meeting.*

# 2020 WATER QUALITY TEST RESULTS

The following tables contain scientific terms and measures, some of which may require explanations. Definitions of terms used below are listed on the previous page.

LEAD AND COPPER								
Lead & Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2018	1.3	1.3	0.088	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing.
Lead	2018	0.0	15	12	4	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

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. Aurora cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours in your home's pipes, you can minimize the potential for lead exposure by flushing your tap for 30 seconds before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800 426-4791) or at <http://www.epa.gov/safewater/lead>. For detailed information on lead in drinking water, please visit the city's webpage on lead in drinking water at <https://www.aurora-il.org/960/Lead-in-Drinking-Water>.

REGULATED CONTAMINANTS								
Disinfectants & By-Products	Date Collected	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chloramines	12/31/20	3	0-3	MRDLG=4	MRDL=4	ppm	N	Water additive used to control microbes.
Haloacetic Acids (HAA5)	2020	16	4.8-23.3	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
(TTHM) Total Trihalomethanes	2020	46	18.2-67.8	No goal for the total	80	ppb	N	By-product of drinking water disinfection.
Inorganic Contaminants	Date Collected	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	2020	0.0075	0.0075-0.11	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chromium	2020	3	0-3.4	100	100	ppb	N	Discharge from steel and pulp mills; Erosion of natural deposits.
Fluoride	2020	0.74	0.64-0.75	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (Measured as Nitrogen)	2020	0.9	0-0.9	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium*	2020	53	53-82			ppm	N	Erosion from naturally occurring deposits; Used in water softener regeneration.

\*There is not a state or federal MCL for sodium. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium restricted diet, you should consult a physician about this level of sodium in the water.

COLIFORM BACTERIA						
MCLG	Total Coliform MCL	Highest Number of Positive	Fecal Coliform or E. Coli MCL	Total Number of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	5% of monthly samples are positive	0		0	N	Naturally present in the environment.

TURBIDITY				
	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest single measurement	1 NTU	0.085	N	Soil runoff.
Lowest monthly % meeting limit	0.3 NTU	100%	N	Soil runoff.

Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

**Total Organic Carbon:** The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set, unless a TOC violation is noted in the violations section.

RAW WATER MONITORING				
Contaminant	Date Sampled	Average level Detected	Units	Raw Source Water Informational Statement
Cryptosporidium	2020	0.017	Oocysts	Cryptosporidium is a microbial parasite found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Aurora's monitoring of the Fox River indicates the presence of these organisms. Current test methods do not permit determination of the organisms viability; the ability to cause disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people are at greater risk of developing life-threatening illness. Immunocompromised individuals are encouraged to consult their doctors regarding appropriate precautions to avoid infections. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

The IEPA requires Aurora to monitor for certain contaminants less than once per year because the concentrations of these compounds do not change frequently. Thus, some data, though accurate, is more than one year old.



In December 2020, two discrete, duplicate follow-up samples were also collected. All samples were tested for 18 PFAS compounds.

This data is not included in this report, but it is available at the following website <https://www.aurora-il.org/2257/PFAS-in-Drinking-Water> or by contacting the Water Production Division at (630) 256-3250.

*More information about contaminants and potential health effects can be obtained by calling the U.S. Environmental Protection Agency's **SAFE DRINKING WATER HOTLINE (800) 426-4791**.*

## UNREGULATED CONTAMINANT MONITORING

The City of Aurora was required to sample and test for all the contaminants listed in the Unregulated Contaminant Monitoring Rules (UCMR2, UCMR3 and UCMR4) from 2009 to 2019. The results of this monitoring are not included in this report, but are available upon request by contacting the Water Production Division at (630) 256-3250. The purpose of unregulated contaminant monitoring is to assist the U.S. EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

### 2020 ADDITIONAL VOLUNTARY UNREGULATED CONTAMINANT MONITORING

The City of Aurora also samples for many other compounds on a voluntary basis that are not regulated. Some of the general categories of data collected include inorganic compounds, volatile organic compounds, synthetic organic compounds, bacteria levels, pharmaceuticals and personal care products, algal toxins, and several others. This data is not included in this report, but is available upon request by contacting the Water Production Division at (630) 256-3250.

### 2020 EMERGENCY BACK-UP WELL MONITORING

The City of Aurora maintains emergency back-up wells. These wells are sampled and tested monthly. This data is not included in this report, but is available upon request by contacting the Water Production Division at (630) 256-3250.

### 2020 & 2021 UNREGULATED PER- AND POLYFLUOROALKYL SUBSTANCE (PFAS) MONITORING

PFAS are a group of approximately 5,000 human-made substances that have been manufactured in the United States since the 1940s for their unique oil and water-resistant properties. This has resulted in PFAS being released into the air, water, and soil.

Neither the state IEPA nor the federal U. S. EPA have yet developed enforceable drinking water standards for PFAS. As part of a state-wide PFAS drinking water investigation, the City of Aurora was notified in September 2020 that the IEPA would be testing all community water supplies in Illinois for the presence of PFAS. In November 2020, the IEPA collected an initial finished water sample at Aurora's water treatment plant.

## HEALTH INFORMATION

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of contaminants. The mere presence of contaminants in drinking water does not necessarily represent a health risk.

Some people may be more vulnerable to certain contaminants than the general population. Immunocompromised people, such as cancer patients undergoing chemotherapy, organ transplant recipients, people with HIV/AIDS or other immune system disorders, and some senior citizens and infants can be particularly at risk of 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**.

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*For more detailed information on lead in drinking water, please visit the city's webpage on lead in drinking water at <http://www.aurora-il.org/960/Lead-in-Drinking-Water>.*

