

# Annual Drinking Water Quality Report

**Chester**

**IL1570100**

For the period of January 1 to December 31, 2023.

This report is intended to provide you with important information about your drinking water and the efforts made by the CHESTER water system to provide safe drinking water. The source of drinking water used by CHESTER is Surface Water.

For more information regarding this report, contact:

Name: Tim Crow Phone: 618 826-3315

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

## **Source of Drinking Water**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater 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 EPA's Safe Drinking Water Hotline at (800) 426-4791.

## **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 by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

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

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. 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 (800-426-4791).

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 cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

**Source Water Information.**

Source Water Name	Type of Water	Report Status	Location
FORMER MENARD CC INTAKE 2M N OF	SW	active	_____
IN60049 ON MISSISSIPPI RIVER	MAP 267A-RIVER MILE 109.5	SW	active _____

**Source Water Assessment.**

We want our valued customers to be informed about their water quality. If you would like to learn more, please feel welcome to attend any of our regularly scheduled meetings. The source water assessment for our supply has been completed by the Illinois EPA. If you would like a copy of this information, please stop by City Hall or call our water operator at 618-826-3315. To view a summary version of the completed Source Water Assessments, including: Importance of Source Water; Susceptibility to Contamination Determination; and documentation/recommendation of Source Water Protection Efforts, you may access the Illinois EPA website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

Source of Water: CHESTER. Illinois EPA considers all surface water sources of community water supply to be susceptible to potential pollution problems, hence, the reason for mandatory treatment for all surface water supplies in Illinois. Mandatory treatment includes coagulation, sedimentation, filtration, and disinfection. Within the Illinois portion of the Upper Mississippi River Watershed, which is illustrated in Figure 3, many commodities, including manufactured goods, petrochemicals, and pesticides are transported along the river system. The production, storage, and transportation of these commodities are a major concern, especially when occurring near surface water intakes. In addition, agricultural runoff within the Illinois portion of the Upper Mississippi River Basin contributes to the susceptibility of the Chester intake. With high flow rates and long distances of travel on the Mississippi River, critical areas can be extensive. The critical area for the Chester intake was determined using data from a joint U.S. Environmental Protection Agency/U.S. Geological Survey project. This project used a computer modeling program (SPARROW) to determine travel times on major rivers in the United States. Accidental spills of hazardous materials into navigable waterways are a major concern because of their frequency in the United States in recent years. Illinois has access to 1,116 miles of inland

waterway that can handle commercial barge traffic. These include the Upper Mississippi River, Illinois River Waterway, and the Ohio River. Along these waterways are numerous facilities that load and unload hazardous materials. Analysis of reported spills indicate that between 1974 and 1989, 794 accidental spills of hazardous materials occurred along Illinois waterways. Approximately 92% of these spills occurred along the Mississippi and/or the Illinois River. Figure 2 shows the critical area of concern (Zone 1) for the Chester surface water intake. Spills occurring in this critical area will travel to the intake in five hours or less, making contingency planning and spill reporting a major concern in this watershed. Further information concerning spill response planning on the Mississippi River may be found in U.S. EPA's website at [www.epa.gov/region5/oil](http://www.epa.gov/region5/oil) and at U.S. Geological Survey's website [ftp://ftp.umesc.er.usgs.gov/pub/gis\\_data/oil\\_spill](ftp://ftp.umesc.er.usgs.gov/pub/gis_data/oil_spill). The Upper Mississippi River Water Suppliers Coalition is currently working to develop an Early Warning

Monitoring Network on the Mississippi River. This Network would enhance response times by providing supplies with early notification of spills on the Mississippi River.

**Lead and Copper**

**Date Sampled: 2023**

Definitions:

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

Action Level Goal(AGL): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALG's allow for a margin of safety.

Lead	Lead	Lead 90th	# Sites Over	Copper	Copper	Copper 90th	# Sites Over	Violation ?	Likely Source of Contaminant
MCLG	Action	Percentile	Lead AL	MCLG	Action	Percentile	Copper AL		
	Level (AL)				Level (AL)				
0	15 ppb	4.5 ppb	0	1.3 ppm	1.3 ppm	0.18 ppb	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

## 2023 Water System Regulated Contaminants Detected

### Water Quality Test Results

**Definitions:** The following tables contain scientific terms and measures, some of which may require explanation.

**Avg:** Regulatory compliance with some MCLs are based on running annual average of monthly samples.

**Level 1 Assessment:** A level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

**Level 2 Assessment:** A level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. Coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

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

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

**Maximum Residual Disinfectant Level or MRDL:** The highest level of 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 or MRDLG:** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**na:** not applicable.

**mrem:** millirems per year (a measure of radiation absorbed by the body)

**ppm:** parts per million

**ppb:** parts per billion

**Ng/L:** parts per trillion

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

Regulated Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation?	Likely Source Of Contaminants
<b>Disinfectants &amp; Disinfection By-Products</b>								
TTHMs [Total Trihalomethanes]	2023	23	12.31 - 27	n/a	80	ppb	No	By-product of drinking water disinfection
Total Haloacetic Acids (HAA5)	2023	35	24.8 – 40.6	n/a	60	ppb	No	By-product of drinking water disinfection
Chlorine	2023	2.8	2 - 3	MRDLG=4	MRDL=4	ppm	No	Water additive used to control microbes
<b>Synthetic organic contaminants including pesticides and herbicides</b>								
Atrazine	2023	0.35	0 - 0.35	3	3	ppb	No	Runoff from herbicide used on row crops.
<b>Radioactive Contaminants</b>								
Combined Radium 226/228	4/7/2021	1.31	1.31 - 1.31	0	5	pCi/L	No	Erosion of natural deposits

Regulated Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation?	Likely Source Of Contaminants
<b>Inorganic Contaminants</b>								
Barium	2023	0.018	0.018 - 0.018	2	2	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	2023	0.7	0.67 – 0.67	4	4.0	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate [measured as Nitrogen]	2023	2	1.9 – 1.9	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium	2023	1	1.2 - 1.2	50	50	ppb	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Sodium	2023	29	29 - 29	n/a	n/a	ppm	No	Erosion of naturally occurring deposits; used in water softener regeneration

<b>Turbidity</b>				
Highest single measurement	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
	1 NTU	0.28 NTU	N	Soil runoff.
Lowest Monthly % Meeting Limit	0.3 NTU	100%	N	Soil runoff.

Information Statement: 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 by IEPA, unless a TOC violation is noted in the violations section

#### **PFAS Detections**

In 2023, our PWS was sampled as part of the State of Illinois PFAS Statewide Investigation. Results from this sampling indicated PFAS were detected in our drinking water below the health advisory level established by Illinois EPA. Follow-up monitoring is being conducted. For more information about PFAS health advisories: <https://www2.illinois.gov/epa/topics/water-quality/pfas/Pages/pfas-healthadvisory.aspx>.

PFAS Analyte	Date Sampled	Sample Results	Minimum Reporting Level	Guidance Level
PFBS	1/18/2023	12 ng/L	2.0 ng/L	2,100 ng/L (nanograms per liter (ng/L))
PFHxA	9/18/2023	2.1 ng/L	2.0 ng/L	3,500 ng/L (nanograms per liter (ng/L))
PFOA	12/1/2023	2.2 ng/L	2.0 ng/L	2 ng/L (nanograms per liter (ng/L))
PFBA	12/1/2023	7.3 ng/L	1.9 ng/L	7,000 ng/L (nanograms per liter (ng/L))
PFPeA	12/1/2023	2.4 ng/L	1.9 ng/L	3,500 ng/L (nanograms per liter (ng/L))
PFHxA	12/1/2023	2.2 ng/L	2.0 ng/L	3,500 ng/L (nanograms per liter (ng/L))
PFHxA	12/1/2023	2.2 ng/L	1.9 ng/L	3,500 ng/L (nanograms per liter (ng/L))