City of Columbia
2019
ANNUAL
WATER QUALITY REPORT

This report is in reference to the Consumer Confidence Report (CCR) required by both the USEPA and Illinois EPA. As your water supplier, the City of Columbia is required to provide certain information to you. If you have any questions about this report, please contact Doug Stinemetz, Water Department Foreman at (618) 281-4264 ext. 301.

In 2019, as in previous years, your tap water met all USEPA and state drinking water health standards. Our system safeguards its water supply, and we are able to report that the department had no violation of a contaminant level or of any other water quality standard in the previous year. This report summarizes the quality of water that we provided in 2019, including details about where your water comes from, what it contains and how it compares to standards set by regulatory agencies.

Do you need copies?

This report will not be mailed to all water customers. If you need copies, feel free to contact us at (618) 281-4264 or find it online at **www.columbiaillinois.com/ccr.**

Source Water Information

The City of Columbia uses water provided by Illinois American Water Company. The East St. Louis Water Treatment Plant receives surface water for treatment from the Mississippi River. The Mississippi River is subject to a variety of influences including agricultural, municipal and industrial activities. Farm chemicals may be seasonally elevated in the river. Extensive monitoring and treatment ensure high quality finished water regardless of variations in the source water. The Illinois EPA has completed a source water assessment for the East St. Louis system. If you would like a summary of the information contained in this report, contact Doug Stinemetz, Water Department Foreman at (618) 281-4264 ext. 301. If you would like to learn more, please feel free to attend any of our regularly scheduled council meetings. To find the next meeting check the calendar at www.columbiaillinois.com.

The City of Columbia has two pumping stations, one located outside the city limits and the other within the city limits of Columbia. At the latter station chlorination is performed. A water supply also comes into the south end of Columbia via transmission main.

Important Health Information

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 USEPA's Safe Drinking Water Hotline (800) 426-4791.

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-comprised 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 microbial contaminants are available from the USEPA's Safe Drinking Water Hotline (800) 426-4791.

Source Water Assessment

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.

A Message For People With Severely Weakened Immune Systems

Cryptosporidium is a protozoan found in untreated surface waters throughout the United States (the organism is generally not present in a ground water source). Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100% removal. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, people with severely weakened immune systems have a risk of developing life-threatening illness. We encourage such people to consult their doctors regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it is spread through means other than drinking water. USEPA issued a new rule in 2006 that requires systems with higher Cryptosporidium levels in their source water to provide additional treatments.

In 2017, Illinois American's monitoring of the Mississippi River raw untreated water indicated the presence of this organism. The Mississippi River cryptosporidium levels ranged from not detected to 0.091 oocysts/L, with an average of 0.03 oocysts/L. Although this organism is present, it is at levels low enough that no supplemental treatment is required by the facility per USEPA standards.

Lead and Copper

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 you 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 (800) 426-4791 or at http://www.epa.gov/safewater/lead.

2019 Water Quality Information

We are pleased to report that during the past year, the water delivered to your home or business complied with, or was better than, all state and federal drinking water requirements. For your information, we have compiled a table showing what substances were detected in your drinking water during 2019. Although all of the substances listed are under the maximum Contaminant Level (MCL) set by the U.S. Environmental Protection Agency, we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

Substances Expected to be in 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 pickup substances resulting from the presence of animals or from human activity.

Contaminates 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.

How to Read the Data Tables

Illinois American Water conducts extensive monitoring to ensure that your water meets all quality standards. The results of our monitoring are reported in the data tables. While most monitoring was conducted in 2019, certain substances are monitored less than once per year because the levels do not change frequently. For help with interpreting these tables, see the "Table Definitions" section and footnotes.

Table Definitions and Abbreviations

- **Action Level (AL):** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.
- **Compliance Achieved:** Indicates that the levels found were all within the allowable levels as determined by the USEPA
- **Highest Level Detected:** In most cases this column is the highest detected level unless compliance is calculated on a Running Annual Average or Locational Running Annual Average. If multiple entry points exist, the data from the entry point with the highest value is reported.
- **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 E. coli MCL violations has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
- **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 disinfectant routinely allowed in drinking water. Addition of a disinfectant is necessary for control of microbial contaminants.
- **MRDLG (Maximum Residual Disinfectant Level Goal):** 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 contamination.
- **N/A:** Not applicable
- **ND:** Not detected
- **NTU:** Nephelometric Turbidity Units.
- **pCi/L (picocuries per liter):** Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).
- **ppm (parts per million):** One part substance per million parts water, or milligrams per liter.
- **ppb (parts per billion):** One part substance per billion parts water, or micrograms per liter.
- **Range of Detections:** The range of individual sample results, from lowest to highest, that were collected during the sample period.

Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.

Inorganic Contaminants (Units)	Collection Date	MCLG	MCL	Highest Level Detected	Range of Level Detected	Violation	Typical Source
Fluoride (ppm) [1]	2019	4	4	0.7	0.71-0.72	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm) (measured as Nitrogen)	2019	10	10	5	1.78-4.71	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium[2]	2019	N/A	N/A	21	18.7-21.2	No	Erosion from naturally occurring deposits: Used in water softener regeneration.

Radiological Contaminants (Units)	Collection Date	MCLG	MCL	Highest Level Detected	Range of Levels Detected	Violation	Typical Source
Gross Alpoha emitters excluding radon and uranium (pCi/L)	2014	0	15	1.5	1.5-1.5	No	Erosion of natural deposits.
Beta/photon emitters[3] (mrem/yr)	2014	0	4	4.4	4.4-4.4	No	Erosion of natural deposits

Turbidity[4]	Collection Date	Limit (Treatment Technique)	Level Detected	Compliance Achieved	Typical Source
Lowest Monthly % Meeting Limit	2018	0.3 NTU	98%	Yes	Soil runoff
Highest Single Measurement	2018	1 NTU	0.79 NTU	Yes	

Disinfectants and Disinfectant By-Products (Units)	Collection Date	MCLG	MCL	Amount Detected	Range of Detections	Violations	Typical Source
Chlorine (ppm)	2019	MRDLG=4	MRDL=4	1.2	1.1-1.2	No	Water additive used to control microbes.
Haloacetic Acids (HAA5) (ppb)	2019	No goal for the total	60	26	15.1-40.6	No	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM) (ppb)	2018	No goal for the total	80	40	17.2-84	No	By-product of drinking water disinfection.

Lead and Copper [5] (Collection at customers' tap)

Substance	Year Sampled	MCLG	Action Level (AL)	90th Percentile	Number of Samples Above Action Level	Units	Violations	Typical Source
Copper	2017	1.3	1.3	0.198	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2017	0	15	0	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.

Unregulated Contaminant Monitoring Rule (UCMR4)[6]

Contaminant (Units)	Year Sampled	Amount Detected (Average)	Range of Detections	Typical Source
2 Methoxyethanol (ppd)	2018	0.2	ND-0.3	Used in number of consumer products, such as cosmetics, perfumes, fragrances and lotion
Manganese (ppd)	2018	7	ND-1.1	Naturally-occurring element; commercially available in combination with elements and minerals
Total Haloacetic Acids9-UCMR4 (ug/L)	2018	28	5.9-24	By-product of drinking water disinfection

Violation Table

Consumer Confidence Rule			
The Consumer Confidence Rule requires community water systems to prepare and provide to their customers annual consumer confidence reports on the quality of the water delivered by the systems.			
Violation Type	**Violation Begin**	**Violation End**	**Violation Explanation**
CCR ADEQUACY/AVAILABILITY/CONTENT	7/1/2019	12/02/2019	We failed to provide to you, our drinking water customers, an annual report that adequately informed you about the quality of our drinking water and the risks from exposure to contaminants detected in our drinking water.

Note: The state requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be more than one year old.

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. TOC has no health effects but contributes to the formation of disinfection by-products. Reductions of TOC can help minimize disinfection by-product formation.

Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future

Notes:

[1] Fluoride is added to the water supply to help promote strong teeth. The Illinois Department of Public Health recommends an optimal fluoride level of 0.7 mg/L. Highest Detect is an annual average.

[2] There is no state of federal MCLfor 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.

[3] The MCL for Beta/photon emitters is often written as 4 millirem/year (measure of rate of radiation absorbed by the body). Laboratory results are reported in pCi/L as we have on the table. EPA considers 50 pCi/L as the level of concern for beta emitters

[4] Turbidity is a measure of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of the effectiveness of our filtration system, water quality, and disinfectants. The treatment technique requires that at least 95% of routine samples are less than or equal to 0.3 NTU, and no sample exceeds 1 NTU. We are reporting the percentage of all readings meeting the standard of 0.3 NTU, plus the single highest reading for the year.

[5] Compliance with the Lead and Copper Rule (LCR) is determined by the levels of lead and copper found in samples taken from customers' taps. LCR requirements are met if the 90^{th} percentile of all samples taken does not exceed the action level of 15 ppb for lead or 1,300 ppm for copper.

[6] Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. A maximum contaminant level (MCL) for these substances has not been established by either state or federal regulation, nor has mandatory health effects language.