

## VIOLATION SUMMARY

The University of Illinois had one Level 1 Assessment Treatment Technique Trigger during 2022. No other monitoring, reporting, treatment technique, maximum residual disinfectant level, or maximum contaminant level violations were recorded during 2022.

## 2022 WATER QUALITY DATA - DETECTED CONTAMINANTS

U of I samples were collected by the university within the campus distribution system. IAW samples were collected within the parent water supply by Illinois American Water.

## 2022 DATA SUMMARY

The table below lists the contaminants that were detected in your water. The presence of contaminants does not necessarily indicate that the water poses a health risk. The data in this table represents a combination of the testing results on finished water from the distribution system and its parent supply, IAW, Champaign District. The university monitors water daily at five separate metered feeds. Additionally, the university monitors water at eight points within the campus distribution system. IAW monitors the parent water supply at points prior to entering the campus distribution system.

COLIFORM BACTERIA								
Contaminant (Units)	Sampled by; Date	MCLG	MCL	Highest # Positive	Fecal Coliform or E. Coli MCL	Total # of positive E. Coli or Fecal Coliform samples	Violation	Likely Source of Contamination
Coliform Bacteria	U of I	0	1 positive monthly sample	2	No samples were E. Coli positive	0	No	Naturally present in the environment.
LEAD AND COPPER								
Contaminant (Units)	Sampled by; Date	MCLG	MCL	90th Percentile	# Sites Exceeding AL	Violation	Typical Source of Contaminant	
Copper (ppm)	U of I; 2020*	1.3	1.3	0.048	0	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.	
Lead (ppb)	U of I; 2020*	0	15	1.6	0	No	Corrosion of household plumbing systems; Erosion of natural deposits.	
DISINFECTANTS & DISINFECTION BYPRODUCTS								
Contaminant (Units)	Sampled by	MCLG	MCL	Highest Compliance Result	Range of Detections	Violation	Typical Source of Contaminant	
Chlorine (ppm) <sup>1</sup>	U of I	MRDLG=4	MRDL=4	1.3	1.3 - 1.4	No	Water additive used to control microbes.	
Haloacetic Acids (HAAs) (ppb)	U of I	NA	60	25	13.8 - 34.2	No	By-product of drinking water disinfection.	
Total Trihalomethanes (TTHM) (ppb)	U of I	NA	80	33	38 - 94.3	No	By-product of drinking water disinfection.	
NOTE: HAAs and TTHM Compliance is based on the running annual average at each location. The Highest Compliance Result reflects the highest average at any location and the Range Detected reflects all samples from this year used to calculate the running annual average.								
INORGANIC CONTAMINANTS								
Contaminant (Units)	Sampled by	MCLG	MCL	Highest Compliance Result	Range of Detections	Violation	Typical Source of Contaminant	
Arsenic (ppb)	IAW; 2021*	0	10	1	0 - 1	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.	
Fluoride (ppm) <sup>2</sup>	IAW; 2021*	4	4.0	0.6	0.57 - 0.6	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.	
RADIOACTIVE CONTAMINANTS								
Contaminant (Units)	Sampled by	MCLG	MCL	Highest Compliance Result	Range of Detections	Violation	Typical Source of Contaminant	
Combined Radium 226/228 (pCi/L)	IAW; 2018*	0	5	1.512	1.512 - 1.512	No	Erosion of natural deposits.	
Gross Alpha Excluding radon and uranium (pCi/L)	IAW; 2018*	0	15	1.24	1.24 - 1.24	No	Erosion of natural deposits.	
STATE REGULATED CONTAMINANTS								
Contaminant (Units)	Sampled by	MCLG	MCL	Highest Compliance Result	Range of Detections	Violation	Typical Source of Contaminant	
Sodium (ppm) <sup>3</sup>	IAW; 2021*	NA	NA	45.1	40.1 - 45.1	No	Erosion of natural deposits; used in water softener regeneration.	
ADDITIONAL WATER QUALITY PARAMETERS OF INTEREST								
Parameter	Year	Average Result	Range Detected	Typical Source				
Manganese (ppb) <sup>4</sup>	IAW; 2019*	4 ppb	0 to 19	Naturally-occurring elemental metal; largely used in aluminum alloy production. Essential dietary element.				

\* The State of Illinois requires monitoring for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of the data, though representative, is more than one year old.

<sup>1</sup> Chlorine and Chloramines are disinfect-

ing agents added to control microbes that otherwise could cause waterborne diseases or other water quality concerns. Most water systems in Illinois are required by law to add either chlorine or chloramines. Levels well in excess of the MRDL could cause irritation of the eyes or nose in some people. The values reported reflect multiple locations in the

service area.

Data represents the highest monthly average of chlorine residuals measured throughout the U of I Distribution System.

<sup>2</sup> Fluoride is added to the water supply to help promote strong teeth. The Illinois Department of Public Health recommends a fluoride level of 0.7 mg/L (ppm).

<sup>3</sup> For healthy individuals the sodium intake from water is not important because a much greater intake of sodium takes place from salt in the diet. However, sodium levels above the recommended upper limit may be of concern to individuals on a sodium restricted diet.

<sup>4</sup> Manganese has a secondary MCL of 150 ppb.

# WATER QUALITY REPORT

# 2022

Public Water System ID: IL0195500

## INTRODUCTION

The 2022 Water Quality Report from the University of Illinois Urbana-Champaign provides information about the source of campus drinking water, contaminant testing, general health precautions, and how calendar year 2022 sample results compare to regulatory requirements. During the past year, the University of Illinois Urbana-Champaign was required to conduct one Level 1 Assessment. One Level 1 Assessment was completed. In addition, no corrective actions were required. All other United States Environmental Protection Agency (USEPA) and Illinois Environmental Protection Agency (IEPA) drinking water quality standards have been met, with no other violations of maximum contaminant levels (MCLs).

If you have any questions about this report or U of I drinking water quality, please contact Facilities & Services, Safety and Compliance at 217-265-9828 or via email at [ecs@illinois.edu](mailto:ecs@illinois.edu). A copy of this report is available at [go.fs.illinois.edu/waterquality](http://go.fs.illinois.edu/waterquality) or by contacting Safety and Compliance.

In compliance with state and USEPA regulations, the university issues a report annually describing the quality of your drinking water. This is a snapshot of last year's water quality. The purpose of this report is to increase understanding of drinking water standards and raise awareness of the need to protect your drinking water sources. We are committed to providing you with information because informed customers are our best allies.



**Facilities & Services**

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

## WATER INFORMATION SOURCES

**Illinois American Water**  
[www.illinoisamerican.com](http://www.illinoisamerican.com)

**United States Environmental Protection Agency**  
[www.epa.gov/safewater](http://www.epa.gov/safewater)

**Safe Drinking Water Hotline**  
800-426-4791

**Illinois Environmental Protection Agency**  
[www2.illinois.gov/epa](http://www2.illinois.gov/epa)

**Surf Your Watershed**  
Locate your watershed and a host of information.  
[www.epa.gov/surf](http://www.epa.gov/surf)

**Envirofacts**  
U.S. environmental data.  
[www.epa.gov/enviro](http://www.epa.gov/enviro)

**National Radon Program Services**  
800-SOS-RADON  
[www.sosradon.org](http://www.sosradon.org)

## LOCAL GROUPS INVOLVED IN WATER AND ENVIRONMENTAL ISSUES

**Mahomet Aquifer Consortium**  
[www.mahometaquiferconsortium.org](http://www.mahometaquiferconsortium.org)

**Prairie Rivers Network**  
217-344-2371  
[www.prairierivers.org](http://www.prairierivers.org)

## WHAT IS THE SOURCE OF U OF I DRINKING WATER?

The University of Illinois purchases drinking water from Illinois American Water (IAW), Champaign District. Water is delivered to campus via five metered locations, and this configuration is known as a consecutive water system. Therefore, the distribution system is considered a public water system. The campus system includes approximately 46 miles of water main. The university distributes this water to the vast majority of campus buildings, however some buildings are supplied directly from IAW. The following information about IAW, Champaign District water supply is from their 2022 Annual Water Quality Report and is available by calling 217-373-3273 or visiting their website at [www.illinoisamerican.com](http://www.illinoisamerican.com).

The source of supply for IAW is groundwater. Currently, 21 wells deliver water for treatment to two lime softening plants: the Mattis Avenue Plant, located in Champaign, and the Bradley Avenue Plant, located west of Champaign. The wells are primarily located in the Mahomet Sands Aquifer and supply water to both plants. The wells range from 208 to 366 feet in depth and are protected from surface contamination by geologic barriers in the aquifers. An aquifer is a porous underground formation (such as sand and gravel) that is saturated with water.

## SOURCE WATER ASSESSMENT

The IEPA has completed a source water assessment for the Champaign County system. In this report, IEPA indicates the wells supplying Champaign County are not geologically sensitive.

To determine IAW, Champaign District's susceptibility to groundwater contamination, a Well Site Survey Report from February 1991 and a source inventory conducted in 1999 by the Illinois Rural Water Association, in cooperation with the IEPA, were reviewed. Based on the information contained in these documents, potential sources of groundwater contamination are present that could pose a hazard to groundwater pumped by the IAW, Champaign District's community water supply wells.

The IEPA has determined that IAW, Champaign District's wells are not susceptible to inorganic chemical

(IOC), volatile organic chemical (VOC), and synthetic organic chemical (SOC) contamination. This determination is based on a number of criteria, including monitoring conducted at the wells, monitoring conducted at the entry point to the distribution system, and noting the available hydrogeologic data for the wells. 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 IEPA website at <http://dataservices.epa.illinois.gov/swap/factsheet.aspx>

## PROTECTING THE WATER YOU DRINK

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

The university is required to test the water in its distribution system for coliform, lead, copper, trihalomethanes (TTHM), and haloacetic acids. IEPA requires 15 samples per month to be analyzed for coliform. In 2022, normal operations of the U of I water distribution system resulted in approximately 16 samples per month for coliform. The most recent testing results for coliform, lead, copper, haloacetic acids, and TTHM are provided in the Data Summary table at the end of this report.

## GENERAL INFORMATION ABOUT ALL DRINKING WATER

The sources of drinking water (both tap 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 human activity. 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 may be naturally occurring or result from urban stormwater 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 stormwater runoff, and residential uses;
- **Organic Chemical Contaminants**, including synthetic and VOCs, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff and septic systems; and
- **Radioactive Contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

## IMPORTANT HEALTH CONSIDERATIONS

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 at 1-800-426-4791.

IAW's advanced water treatment processes are designed to reduce any such substances to levels well below any health concern.

All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive and, in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels.

Some people may be more vulnerable to contaminants in drinking water than

(Continued on next page)

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 and Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the USEPA Safe Drinking Water Hotline at 1-800-426-4791.

## RADON

Radon is a radioactive gas that occurs naturally in some groundwater. It may pose a health risk when the gas is released from water into the air, as occurs during showering, bathing, or washing dishes and clothes. Radon gas released from drinking water is a relatively small part of the total radon in air. Major sources of radon gas are soil and cigarettes. Inhalation of radon gas has been linked to lung cancer; however, it is not clear how radon in your drinking water contributes to this health effect. If you are concerned about radon in your home, tests are available to determine the total exposure level. For additional information on how to have your home tested, contact the Champaign-Urbana Public Health District, or call 1-800-SOS-RADON.

## COLIFORMS

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that we found during the assessment. During the past year, we were required to conduct one (1) Level 1 assessment. One (1) Level 1 assessment was completed. In addition, no corrective actions were required.

## 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.

The University of Illinois 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, minimize the potential for lead exposure by flushing the tap for 30 seconds to two 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 to take to minimize exposure is available by calling the USEPA Safe Drinking Water Hotline at

1-800-426-4791 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## ARSENIC

While your drinking water meets the USEPA's standard for arsenic, it does contain low levels of arsenic. The USEPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The USEPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects, such as skin damage and circulatory problems.

## DEFINITIONS

Definition terms used on back page

**AL:** Action Level. The concentration of contaminant that, when exceeded, triggers treatment or other required actions by the water supply.

**ALG:** Action Level Goal. 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.

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

**Date Sampled:** If the sample date appears, the IEPA requires monitoring for the contaminant less than once per year because the concentrations do not frequently change. If sample date does not appear, monitoring was conducted in 2022.

**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 an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

**Level Found:** This column represents an average of sample result data collected during the sample period. In some cases, it may represent a single sample if only one sample was collected. For lead and copper, the level found equals the 90th percentile of all samples taken.

**MCLG:** 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 technology.

**MCLG:** Maximum Contaminant Level Goal. The level of 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 a disinfectant allowed in drinking water. There is convincing evidence that

a disinfectant is necessary for control of microbial contaminants.

**MRDLG:** Maximum Residual Disinfectant Level Goal. 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.

**NA:** Not applicable.

**ND:** Not detectable at testing limits.

**pCi/L:** Picocuries per liter. A measurement of the natural rate of disintegration of radioactive contaminants in water.

**ppb:** Parts per billion. Also micrograms per liter – or one ounce in 7,350,000 gallons of water.

**ppm:** Parts per million. Also milligrams per liter – or one ounce in 7,350 gallons of water.

**Range of Detections:** This column represents a range of individual sample results, from lowest to highest, that were collected during the sample period.

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