2023 WATER QUALITY REPORT

LEARN THE VALUE
OF EVERY DROP.

PWSID: KY0560258

LouisvilleWater.com

QUALITY WATER. QUALITY OF LIFE.

Louisville Water

Louisville Water delivers an average of 127 million gallons of high-quality drinking water to nearly a million people every day. We help keep life flowing and we truly believe quality water is essential for a quality life.

Think of this Annual Water Quality Report as our report card. Louisville Water prepares this report to meet Environmental Protection Agency (EPA) requirements under the Safe Drinking Water Act which celebrates 50 years in 2024. For the 17th year in a row, Louisville Water had zero water quality violations. We also achieved all state and federal requirements.

We take great pride in the fact that Louisville Water is considered a leader in the industry as a result of the high standards we uphold. Louisville Water consistently ranks among the nation's top water utilities and is home to two of the top treatment plants in the country: Crescent Hill Water Treatment Plant and B.E. Payne Water Treatment Plant. We are one of only three utilities in North America to have the highest honor for maintaining quality as the water travels to homes and businesses. These distinctions come from the Partnership for Safe Water, a collaboration with the American Water Works Association, the EPA, and other water organizations.

Inside Louisville Water's EPA-certified laboratory, our team of scientists and plant operators perform more than 200 tests daily to ensure Louisville Pure Tap® is the outstanding quality our customers expect and rely on. We test the water at the treatment plants, throughout the distribution system, and at many customer taps. You can trust that your drinking water is safe.

A Refreshing Drink with a Refreshing Value

FILL. DRINK. REPEAT.

23 8oz. glasses for a penny!

WHERE DOES MY DRINKING WATER COME FROM?

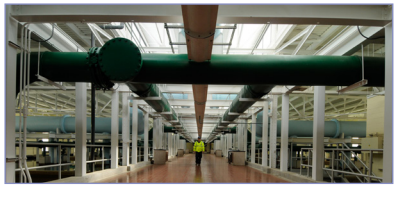
The Ohio River is an invaluable resource. Its abundant supply is why Louisville Water can provide reliable drinking water to its customers in Louisville Metro and parts of Bullitt, Hardin, Nelson, Oldham, Shelby, and Spencer counties. We operate two treatment plants. The majority of our drinking water comes from the Crescent Hill Water Treatment Plant, which treats water pumped directly from the Ohio River. The B.E. Payne Water Treatment Plant in eastern Jefferson County treats groundwater collected from the surrounding aquifer through a process called riverbank filtration.

DELIVERING HIGH-QUALITY LOUISVILLE PURE TAP®

OHIO RIVER
Our treatment plants are supplied by water directly from the Ohio River or from groundwater that is naturally filtered through the riverbank.

COAGULATION + SEDIMENTATION
Louisville Water adds coagulants to help natural clay and silt particles stick together. Mud, sand, and other debris settle to the bottom and are removed from the water during the sedimentation process.

Scientists perform 200 tests each day before Louisville Pure Tap® is delivered to homes and businesses.



DISINFECTION + FILTRATION
Chlorine is added to eliminate risk from pathogens. Ammonia stabilizes the disinfectant and keeps the water safe to drink. Water then flows through filters made of anthracite coal and sand to remove any remaining particles.

PROTECTING OUR SOURCE

Louisville Water maintains a Source Water Assessment and Protection Plan which outlines the steps to address potential sources of contamination along the Ohio River, such as hazardous materials spills. We also maintain a Wellhead Protection Program that outlines contamination risks to our wellhead protection area. For questions about source water protection efforts, email us at **waterquality@LouisvilleWater.com**.

A MESSAGE FROM THE EPA

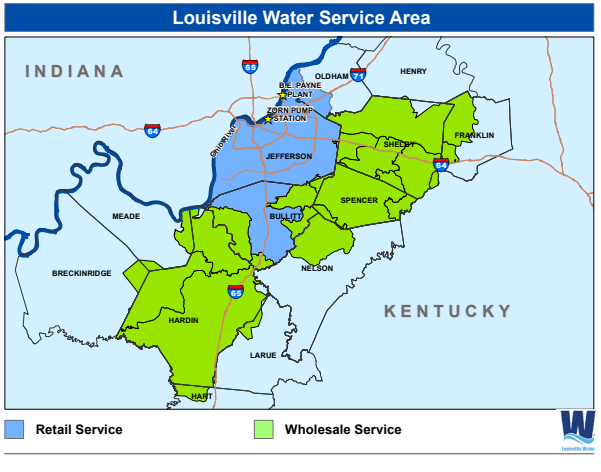
The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over land or through the ground, it dissolves naturally occurring minerals, and in some cases, radioactive materials, and can pick-up substances resulting from the presence of animals or from 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 can 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 volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

UNDERSTANDING HOW TO READ THIS REPORT

Public health is at the core of what Louisville Water does every day. We are committed to delivering safe, clean drinking water because we know our customers rely on it.

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



The data tables in this report show results of tests required by the EPA. The definition key explains terms you'll find listed in the tables. As you will see, Louisville Water achieved compliance with all state and federal requirements.

WATER QUALITY DATA DEFINITION KEY

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

BDL: *Below Detection Levels. Laboratory analysis indicates that the contaminant is not present.*

LRAA: *Locational Running Annual Average.*

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 a disinfectant allowed in drinking water. There is convincing evidence that addition of 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.*

n/a: *Not Applicable.*

NTU: *Nephelometric Turbidity Unit. A measure of the clarity of water.*

ppm: *Parts per million or milligrams per liter, mg/L.*

ppb: *Parts per billion or micrograms per liter, µg/L.*

ppt: *Parts per trillion or nanograms per liter, ng/L.*

RAA: *Running Annual Average.*

SU: *Standard Units.*

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

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.

LOUISVILLE WATER COMPANY WATER QUALITY DATA Jan. 1 - Dec. 31, 2023

The data presented in this report are from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data in this table, though representative, may be more than one year old.

Regulated Contaminants - Substances subjected to a Maximum Contaminant Level (MCL), Action Level (AL) or Treatment Technique (TT). These standards protect drinking water by limiting the amount of certain substances that can adversely affect public health.

REGULATED SUBSTANCES - TREATMENT PLANTS

			CRESCENT HILL WATER TREATMENT PLANT (CH)			B. E. PAYNE WATER TREATMENT PLANT (BEP)				
Substance (units)	*MCL*	*MCLG*	*CH Average*	*Highest Level Detected*	*Range of Detections*	*BEP Average*	*Highest Level Detected*	*Range of Detections*	*Compliance Achieved*	*Typical Source of Contamination (for more details, visit www.epa.gov/safewater)*
INORGANIC										
Barium (ppm)	2	2	0.022	0.022	one measure	0.018	0.018	one measure	✔	Discharge of drilling wastes. Discharge from metal refineries. Erosion of natural deposits.
Fluoride (ppm)	4	4	0.63	0.63	one measure	0.72	0.72	one measure	✔	Additive that promotes strong teeth. Fertilizer & aluminum factories. Erosion of natural deposits.
Nickel (ppm)	n/a	n/a	0.0015	0.0015	one measure	BDL	BDL	BDL	✔	Erosion of natural deposits.
Nitrate (ppm)	10	10	0.99	1.20	0.85 -1.20	0.17	0.23	0.12 - 0.23	✔	Runoff from fertilizer & leaching from septic tanks. Erosion of natural deposits.
Nitrite (ppm)	1	1	0.010	0.013	BDL - 0.013	BDL	BDL	BDL	✔	Runoff from fertilizer & leaching from septic tanks.
Turbidity (NTU)	TT 100% ≤ 1.0 and 95% ≤ 0.3	n/a	0.05	0.08 (100% ≤ 0.3)	0.03 - 0.08	0.04	0.07 (100% ≤ 0.3)	0.03 - 0.07	✔	Soil runoff.

Turbidity has no health effects. However, turbidity can provide a medium for microbial growth. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.

ORGANIC										
Atrazine (ppb)	3	3	BDL	0.10	BDL - 0.10	BDL	BDL	BDL	✔	Runoff from herbicide used on crops.
Total Organic Carbon (Removal Ratio)	TT (≥ 1.00)	n/a	1.37	Lowest RAA Removal Ratio 1.35	1.00 - 1.86	n/a	n/a	n/a	✔	Naturally present in the environment.

Total Organic Carbon (TOC) occurs in source waters from natural substances such as decayed leaves and animal wastes. It can combine with chlorine used in disinfection to form disinfection byproducts. TOC is measured in parts per million (ppm) but compliance with the treatment technique (TT) is based on a running annual average (RAA) of the monthly ratios of the percent TOC treatment removal compared to the required removal. A minimum annual average ratio of 1.00 is required. In 2023, Louisville Water met the TOC treatment technique requirement.

REGULATED SUBSTANCES - DISTRIBUTION SYSTEM

Substance (units)	*MCL*	*MCLG*	*Average*	*Range of Detections*	*Compliance Achieved*	*Typical Source of Contamination (for more details, visit www.epa.gov/safewater)*
Chlorite (ppm)	1	0.8	0.14	0.047 - 0.20	✔	By-product of drinking water disinfection.
Chlorine Residual (Chloramines) (ppm)	MRDL = 4	MRDLG = 4	2.66 (RAA)	1.03 - 3.38	✔	Water additive used to control microbes.
Haloacetic Acids (ppb)	60	n/a	21.1 (Maximum LRAA)	5.8 - 33.1	✔	By-product of drinking water disinfection.
Total Trihalomethanes (ppb)	80	n/a	28.7 (Maximum LRAA)	12.8 - 37.6	✔	By-product of drinking water disinfection.

REGULATED SUBSTANCES - AT CUSTOMER'S TAP

Substance (units)	*AL*	*MCLG*	*Highest Single Result*	*# Results Exceeding AL*	*90th Percentile*	*Range of Detections*	*Compliance Achieved*	*Typical Source of Contamination (for more details, visit www.epa.gov/safewater)*
Copper (ppm)	AL 90% ≤ 1.3	1.3	0.081	0	0.041	0.0041 - 0.081	✔	Corrosion of household plumbing systems. Erosion of natural deposits.
Lead (ppb)	AL 90% ≤ 15	0	4.2	0	1.1	BDL - 4.2	✔	Corrosion of household plumbing systems. Erosion of natural deposits.

Lead and copper results are from 2023 and the most recent required testing done in accordance with the regulation. All samples were taken at customers' taps meeting lead and copper plumbing and water holding time criteria. Fifty (50) sites were tested, zero (0) samples exceeded the Action Level for lead; zero (0) samples exceeded the Action Level for copper.

Spanish (Español): Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúzcalo o hable con alguien que lo entienda bien. (This pamphlet contains important information about your drinking water. Please have this information translated.)

WHAT TO KNOW ABOUT LEAD

There's a national focus to minimize the risk of lead getting into the drinking water. At Louisville Water, we take it seriously. Lead can cause serious health problems, especially for pregnant women and young children. The risk for lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Louisville's drinking water does not contain lead when it leaves our treatment plants. We balance the water chemistry to protect the water as it travels through pipes, but eliminating lead pipes is the best way to protect the drinking water. You share the responsibility for protecting yourself and your family from the lead in your home plumbing.

EPA regulations guide our work with lead and Louisville Water is prepared to meet new EPA-proposed regulations. More than 30 employees are part of an internal team working on our response to the EPA's Lead & Copper Rule Revisions that have a fall 2024 deadline. EPA has also proposed improvements to its revisions that are pending comments.

The EPA revisions include publishing an inventory of all lead service lines regardless of whether the utility or the customer owns the service line. That's where we need your help. Louisville Water has eliminated the known lead service lines we installed decades ago and now we want to help customers who may have a lead service line on their property.

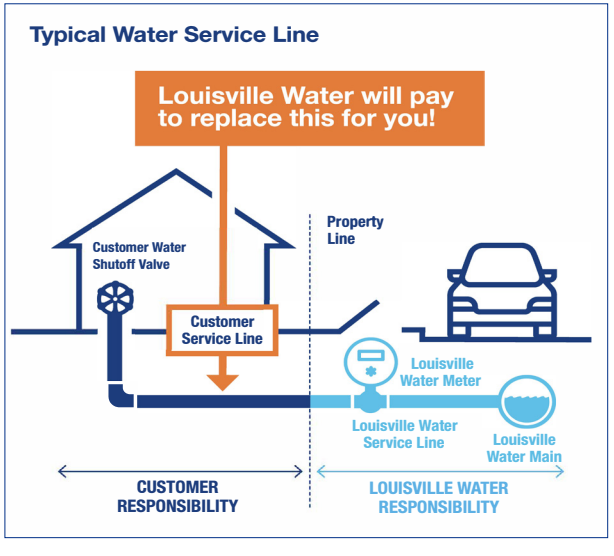
Lead and Copper Monitoring Results

Substance (units)	*MCLG*	*Highest Single Result*	*90th Percentile*	*Range of Detections*	*Compliance Achieved*
Copper (ppm)	1.3	0.081	0.041	0.0041 - 0.081	✔
Lead (ppb)	0	4.2	1.1	BDL - 4.2	✔

IMPORTANT: DO YOU KNOW THE MATERIAL OF YOUR WATER SERVICE LINE?

Louisville Water is responsible for providing high-quality drinking water and removing lead pipes but cannot control the variety of materials used in plumbing components in your home. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk.

You may have never thought about the material of the water service line on your property—but Louisville Water needs to know what types of pipes are at your home. Because, if the outdoor water line that comes into your home is lead or galvanized steel, we will replace it for free!



The service line is the pipe that brings drinking water from the water main into your home. Louisville Water installs a service line from the water main and the customer installs one on their property. Older homes (those typically built before 1950) may still have a lead or galvanized service line.

Go to **LouisvilleWater.com/inventory** or scan the QR code to check our records for the material of your private water service line. Follow the prompts and enter your account number. If the record says "unknown" or "lead," then we need your help. The website explains how to identify your water service line material. Remember, if the pipe material is lead or galvanized steel, we'll replace it for free. If you're a tenant, ask your landlord to use the online portal and check our inventory records.

Have questions? Call (502) 569-0898 or email **leadproject@LouisvilleWater.com**.

STEPS YOU CAN TAKE TO REDUCE LEAD RISKS

As mentioned, removing lead plumbing materials within your home reduces your risk for exposure to lead. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry, or washing a load of dishes.

Did you know Louisville Water will test your water for free? If you are concerned about lead in your water and wish to have your water tested, contact Louisville Water to order a water quality lead test kit. Call (502) 569-0898 or visit **LouisvilleWater.com/Water-Quality-Lead-Test-Kit**.

You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at **EPA.gov/safewater/lead**.

WHAT IF I AM IMMUNOCOMPROMISED?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those 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 healthcare 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 at (800) 426-4791.

P-WHAT? BREAKING DOWN THE COMPLICATED SUBJECT OF PFAS

PFAS stands for per- and polyfluoroalkyl substances. They are manufactured chemicals that do not occur naturally. There are thousands of PFAS chemicals, and they have been used in industry and consumer products since the 1940s. Because these chemicals are persistent and do not break down in most environments, scientists detect PFAS in soil, water, and air as well as many fish and animals. Research indicates most of us are or have been exposed to PFAS.

WHERE DO PFAS COME FROM?

EPA estimates more than 80% of our exposure comes from various consumer goods and other sources, not drinking water. The source of PFAS compounds in the Ohio River likely comes from various manufacturing facilities and products containing PFAS chemicals. In the 1940s, manufacturers began using these compounds to produce industrial and household items like non-stick cookware, water-resistant fabrics, fast-food packaging, pesticides, fire-fighting foam, and more.

In 2023, Louisville Water completed the requirements under the Fifth Unregulated Contaminant Monitoring Rule (UCMR5). Below, you'll find Louisville Water's PFAS results for our two water treatment plants from 2023. The data below is for UCMR5 and shows a range of detections.

UNREGULATED CONTAMINANTS—Substances for which EPA requires monitoring to determine where certain substances occur and whether it needs to regulate those substances.

Unregulated Substances - Treatment Plants

Water Quality Data (January 1 - December 31, 2023)		*Crescent Hill Water Treatment Plant (CH)*		*B. E. Payne Water Treatment Plant (BEP)*	
Substance (units)	*Minimum Reporting Level*	*CH Average*	*Range of Detections*	*BEP Average*	*Range of Detections*
Perfluorooctanoic Acid (PFOA) (ppt)	4	1.9	BDL - 7.5	BDL	BDL
Perfluorobutanesulfonic Acid (PFBS) (ppt)	3	0.8	BDL - 3.0	BDL	BDL
Perfluorohexanoic Acid (PFHxA) (ppt)	3	1.8	BDL - 3.6	BDL	BDL
Perfluoropentanoic Acid (PFPeA) (ppt)	3	2.0	BDL - 4.1	BDL	BDL

The detected contaminants from this monitoring are listed in the above table. As our customers, you have a right to know this data is available. If you are interested in all analytical results, please contact Kelley Dearing-Smith at (502) 569-3695 or ***ksmith@LouisvilleWater.com****.*

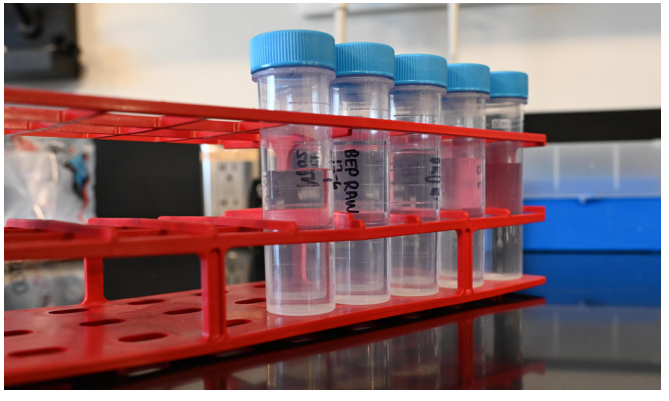
LOUISVILLE WATER MEETS THE STANDARD

Our priority is public health which means providing the community with excellent drinking water quality. Louisville Water's research scientists have monitored PFAS in our source water for the past 10 years to better understand seasonal variation and to monitor historical trends over time. Our research data is critical for guiding our treatment strategy and ensuring effective PFAS removal.

In spring 2024, the EPA finalized regulatory standards for six PFAS chemicals that are more widely occurring and better studied. These standards are part of the National Primary Drinking Water Rules (NPDWR) that public water utilities follow to protect public health. The new NPDWR will regulate the maximum allowable concentration of PFOA and PFOS each at 4.0 parts per trillion (ppt), and PFHxS, PFNA and HFPO-DA each at 10 ppt based on a running annual average. The EPA is also applying a unitless Hazard Index of 1 as the MCL for PFBS, PFHxS, PFNA, and HFPO-DA (GenX) when two or more of these compounds are detected.

While Louisville Water does not contribute to these contaminants, we continue to evaluate treatment options to reduce levels even lower than what we currently detect. These options include using activated carbon, which is a process Louisville Water already utilizes.

We understand the scientific terminology can be confusing, but the ***bottom line is*** based on our UCMR5 data, Louisville Water meets the new standards and your drinking water is high-quality.



ADDITIONAL WATER QUALITY DATA - 2023*

pH (SU)	*8.7*
Alkalinity (as CaCO3) (ppm)	*75*
Hardness (as CaCO3) (ppm)	*123 (7.2 grains per gallon)*
Calcium (as Ca) (ppm)	*29*
Magnesium (as Mg) (ppm)	*13*
Sodium (as Na) (ppm)	*28*
Chloride (ppm)	*35*
Sulfate (ppm)	*55*
Total Dissolved Solids (ppm)	*225*

**These are an average of the concentrations in Crescent Hill and B.E. Payne finished water.*

QUESTIONS ABOUT THIS REPORT?

Contact Kelley Dearing Smith, VP of Strategic Communications and Marketing, at (502) 569-3695 or email **ksmith@LouisvilleWater.com**. Visit **questions@LouisvilleWater.com** or call (502) 583-6610 to request a copy. View this report online at **LouisvilleWater.com/WaterQualityReport**.

CUSTOMER INPUT

The Board of Water Works normally meets the third Tuesday of each month at 11 a.m. at 550 South Third Street in Louisville.

SHARING THE STORY OF LOUISVILLE PURE TAP®

Still curious about why Louisville Pure Tap® tastes so great? We'd love to tell you about the history, science, and innovation behind our award-winning water. To schedule a speaker for your school or organization, or to find out about our community education program, email **educationprograms@LouisvilleWater.com**.

ACCOUNT SERVICES

Sign up for Louisville Water Pure Connect℠—an easy, convenient way to view and pay your bill. Now featuring more options to pay! Learn more at **LouisvilleWater.com/PureConnect**. You can also access your account by phone at (502) 583-6610 or toll free at (888) 535-6262. Customer Service representatives are available Monday – Friday from 8 a.m. - 6 p.m. Please have your account number ready.

WALK-IN CUSTOMER SERVICE

Monday - Friday
8 a.m. - 4:30 p.m.
John L. Huber Building
550 South Third Street
Louisville, KY 40202

Monday - Friday
8 a.m. - 1 p.m. & 1:30 - 4 p.m.
Shepherdsville Govt. Center
634 Conestoga Parkway
Shepherdsville, KY 40165