

## QUESTIONS ABOUT THIS REPORT?

Contact Kelley Dearing Smith, Public Information Officer, by phone at **502.569.3695** or send an email to **ksmith@lwcky.com**. To request copies, visit **LouisvilleWater.com/RequestWQReport** or call **502.583.6610**.

## CUSTOMER INPUT

The Board of Water Works meets the third Tuesday of each month at 11:00 a.m. at 550 South Third Street in Louisville.

## WE LOVE TO TALK ABOUT WATER

Ever wonder why Louisville's drinking water is so good? We'd like to tell you the story of the history, science and innovation behind Louisville pure tap®—visit the Water-Works Museum at Louisville Water Tower Park (3005 River Road). For more information, visit **LouisvilleWater.com/water-tower-park**. To book a speaker for your organization, email **publicinfo@lwcky.com** or call **502.569.3600, ext. 2123**.

## ACCOUNT SERVICES

Access your account online at **LouisvilleWater.com**, by phone at **502.583.6610** or toll free at **888.535.6262**. To speak with a Customer Service Representative, please call during business hours, Monday - Friday, 8 a.m. - 6 p.m. Be sure to have your account number handy.

## 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 p.m. - 4 p.m. Shepherdsville Govt. Center 634 Conestoga Parkway Shepherdsville, KY 40165
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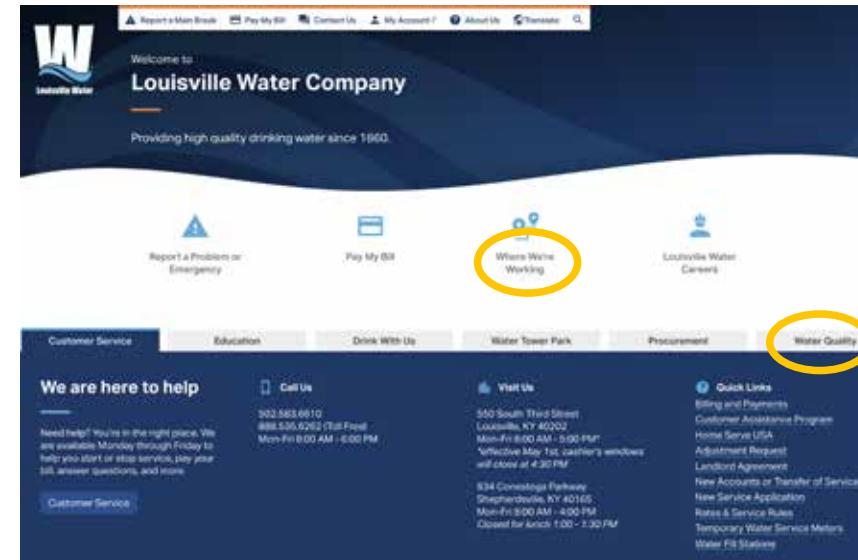
**LouisvilleWater.com**



## ANNUAL WATER QUALITY REPORT

PWSID: KY0560258  
**LouisvilleWater.com**

## ABOUT YOUR DRINKING WATER



Louisville Water Company's Annual Water Quality Report includes information about your drinking water—Louisville pure tap®. Louisville Water prepares this report to meet Environmental Protection Agency (EPA) requirements under the Safe Drinking Water Act Amendment. It's important to know that your drinking water meets and exceeds the EPA's strict health standards.

Since 1860, Louisville Water has provided safe, high-quality drinking water to its customers. Louisville Water is a lifeline to the region, providing water to almost one million customers in Louisville Metro and parts of Bullitt and Oldham counties.

The Annual Water Quality Report highlights the work we do every day to keep water flowing at the tap. We know customers might have questions about our water or what we do, so in light of that, we redesigned our website in 2018. Here are a few of the many helpful features that are available to you.

## WHERE WE'RE WORKING

Our website has a new link called 'Where We're Working' on the LouisvilleWater.com home page. This link takes you to a map of our planned work. The map is coded to show active work sites, plus ones that are on hold or not yet started. The map does not include main break activity. These planned projects also have contact information for the project manager if you have questions or concerns.

## LEAD SERVICE LINE LOOKUP

Louisville's drinking water is regarded as one of the highest quality in the United States, and it does not contain lead when it leaves the treatment plant. Finished water has the potential to pick up lead from the pipes it travels through, including ones in your home. In the 1990s, Louisville Water started an aggressive program to replace all its lead service lines and is scheduled to have them out of the system by 2020. If you want to know if your Louisville Water service line is lead, you can look it up on our website. You'll need your 10-digit Louisville Water account number to get started. Please note that our available records are only for Louisville Water lines, not customer lines or plumbing

within the home. This link is available under our Water Quality tab on the home page, under Lead Management. Or simply type in your web browser **LouisvilleWater.com/ServiceLineLookup**.

## TROUBLESHOOTING WATER QUALITY

Our water is known for its quality and great taste, but we know that sometimes when you turn on the tap, there might be an issue. Our 'Water Quality Self-Diagnostic Tool' will help you troubleshoot your water problems, should you ever have one. This link is available under our Water Quality tab on the home page, under Maintain Optimal Water Quality. Or simply type in your web browser **LouisvilleWater.com/WaterQualityHelp**.

For these features and many more, visit **LouisvilleWater.com**.

## SIGN UP FOR NEWS SPLASH!

Want tips for your tap, news, and information on our events sent to your inbox? Sign up for *News Splash*, our monthly customer e-newsletter.

Visit **LouisvilleWater.com** and click on the tab 'Sign Up for Our Newsletter' at the bottom of the page.

## MESSAGE FROM THE EPA

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (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 the bottled water that must provide the same protection for public health.

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.

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 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 be the result of oil and gas production and mining activities.

*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 at 800.426.4791.*

## INFORMATION ABOUT 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. Louisville Water 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, 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/safe-water/lead>.

## THE SOURCE

Louisville Water is the public water supplier to Louisville Metro and parts of Bullitt and Oldham Counties. The Ohio River is the source for your drinking water. Louisville Water operates a surface water treatment plant and a ground water treatment plant, both with intakes on the Ohio River. In October 2003, the Kentucky Division of Water approved a Source Water Assessment and Protection Plan for Jefferson County. The plan looks at Louisville Water's susceptibility to potential sources of contamination. The plan identified spills of hazardous materials on the Ohio River and permitted discharges of sanitary sewers as the highest contamination risks. In Jefferson County, land use in the protection area is primarily zoned for residential and commercial use, with only a few industrial sites. In Oldham and Trimble Counties (areas bordering the Ohio River to the north of our intakes), land use is primarily zoned for residential and agricultural use. Therefore, source water contamination risks are relatively low. Louisville Water maintains an Emergency Preparedness and Disaster Services Plan to address potential contamination risks.



To view the entire Source Water Assessment and Protection Plan, contact Chris Bobay at 502.569.3600 ext. 2450.

Louisville Water also draws water through the aquifer with five riverbank filtration wells at the B.E. Payne Water Treatment Plant. The Kentucky Division of Water approved Louisville Water's Wellhead Protection Plan (WHPP) in 2014. The goal is to safeguard groundwater feeding into the wells from contamination within the Wellhead Protection Area (WHPA) in Prospect. Louisville Water continually updates the plan. New residents and businesses in the WHPA receive information about the WHPP and educational materials. To view the entire Wellhead Protection Plan, visit [louisvillewater.com/water-quality/wellhead-protection](http://louisvillewater.com/water-quality/wellhead-protection) or contact Chris Bobay at 502.569.3600 ext. 2450.

## ADDITIONAL WATER QUALITY DATA

Alkalinity (as CaCO <sub>3</sub> ) - 58 mg/L
pH - 8.8 (SU)
Calcium (as Ca) - 25 mg/L
Magnesium (as Mg) - 10 mg/L
Sodium (as Na) - 19 mg/L
Sulfate - 47 mg/L
Bicarbonate (as CaCO <sub>3</sub> ) - 57 mg/L
Chloride - 25 mg/L
Hardness (as CaCO <sub>3</sub> ) - 102 mg/L (6.0 grains/gallon)

Data is an average of Crescent Hill and B.E. Payne Water Treatment Plants.

View this report online at [LouisvilleWater.com/WaterQualityReport](http://LouisvilleWater.com/WaterQualityReport)

## \*TABLE DEFINITIONS

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

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

**Locational Running Annual Average (LRAA):** The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

**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. MCLs are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

**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 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.

**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 benefits of the use of disinfectants to control microbial contaminants.

**Milligrams per liter (mg/L):** One part per million is equal to one milligram per liter.

**Not applicable (n/a):** Does not apply.

**Nephelometric Turbidity Unit (NTU):** A measure of the clearness or clarity of water. 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.

**Parts per billion (ppb) or micrograms per liter (µg/L):** One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Parts per million (ppm) or milligrams per liter (mg/L):** One part per million corresponds to one minute in two years, or a single penny in \$10,000.

**Running Annual Average (RAA):** The average of sample analytical results for samples taken during the previous four calendar quarters.

**Standard Units (SU).**

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

## LOUISVILLE WATER COMPANY WATER QUALITY DATA JAN. 1, 2018 - DEC. 31, 2018

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

Substance (units)	MCL	MCLG	Crescent Hill Water Treatment Plant (CH)			B. E. Payne Water Treatment Plant (BEP)			Compliance Achieved	Typical Source of Contamination (for more details, visit <a href="http://www.epa.gov/safewater/hfacts.html">www.epa.gov/safewater/hfacts.html</a> )	
			CH Average	Highest Level Detected	Range of Detections	BEP Average	Highest Level Detected	Range of Detections			
<b>INORGANIC</b>											
Fluoride (ppm)	4	4	0.7	0.7	one measure	0.7	0.7	one measure	<b>YES</b>	Additive that promotes strong teeth. Fertilizer & aluminum factories. Erosion of natural deposits.	
Nitrate (ppm)	10	10	1.1	1.2	1.0 - 1.2	0.3	0.3	0.3 - 0.3	<b>YES</b>	Runoff from fertilizer & leaching from septic tanks. Erosion of natural deposits.	
Turbidity (NTU)	TT 100% ≤ 1.0 and 95% ≤ 0.3	n/a	0.05	0.07 (100% ≤ 0.3)	0.03 - 0.07	0.05	0.09 (100% ≤ 0.3)	0.04 - 0.09	<b>YES</b>	Soil runoff.	
<b>ORGANIC</b>											
2,4-D (ppb)	70	70	BDL	0.3	BDL - 0.3	BDL	BDL	BDL	<b>YES</b>	Runoff from herbicide used on row crops.	
Total Organic Carbon (Removal Ratio)	TT (≥ 1.00)	n/a	1.46	Lowest RAA Removal Ratio 1.40		1.00 - 1.97	n/a	n/a	n/a	<b>YES</b>	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 by-products. 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 2018, Louisville Water met the TOC treatment technique requirement.

### REGULATED SUBSTANCES - DISTRIBUTION SYSTEM

Substance (units)	MCL	MCLG	Highest Level Detected	Range of Detections	Compliance Achieved	Typical Source of Contamination (for more details, visit <a href="http://www.epa.gov/safewater/hfacts.html">www.epa.gov/safewater/hfacts.html</a> )
Total Trihalomethanes (ppb)	80	n/a	27.8 (LRAA)	11.6 - 39.8	<b>YES</b>	By-product of drinking water disinfection.
Haloacetic Acids (ppb)	60	n/a	27.3 (LRAA)	4.0 - 46.1	<b>YES</b>	By-product of drinking water disinfection.
Chloramines (ppm)	MRDL = 4	MRDLG = 4	2.8 (RAA)	0.8 - 4.0	<b>YES</b>	Water additive used to control microbes.

### 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 <a href="http://www.epa.gov/safewater/hfacts.html">www.epa.gov/safewater/hfacts.html</a> )
Copper (ppm)	AL 90% ≤ 1.3	1.3	0.11	0	0.04	BDL - 0.11	<b>YES</b>	Corrosion of household plumbing systems. Erosion of natural deposits.
Lead (ppb)	AL 90% ≤ 15	0	10.2	0	4.7	BDL - 10.2	<b>YES</b>	Corrosion of household plumbing systems. Erosion of natural deposits.

Lead and copper results are from 2017 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.)*

# LOUISVILLE WATER COMPANY WATER QUALITY DATA JAN. 1, 2018 - DEC. 31, 2018

*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

Substance (units)	Minimum Reporting Level	Crescent Hill Water Treatment Plant (CH)			B. E. Payne Water Treatment Plant (BEP)			Compliance Achieved
		CH Average	Highest Level Detected	Range of Detections	BEP Average	Highest Level Detected	Range of Detections	
Manganese (ppb)	0.4	1.6	2.4	0.6 - 2.4	3.7	5.0	2.3 - 5.0	n/a
Quinoline (ppb)	0.02	BDL	0.05	BDL - 0.05	BDL	BDL	BDL	n/a

## UNREGULATED SUBSTANCES - UNTREATED SOURCE WATER

Substance (units)	Minimum Reporting Level	CH Average	Highest Level Detected	Range of Detections	BEP Average	Highest Level Detected	Range of Detections	Compliance Achieved
Total Organic Carbon (ppm)	0.5	3.16	3.68	2.37 - 3.68	n/a	n/a	n/a	n/a
Bromide (ppb)	10	35.4	59.6	24.8 - 59.6	n/a	n/a	n/a	n/a

## UNREGULATED SUBSTANCES - DISTRIBUTION SYSTEM

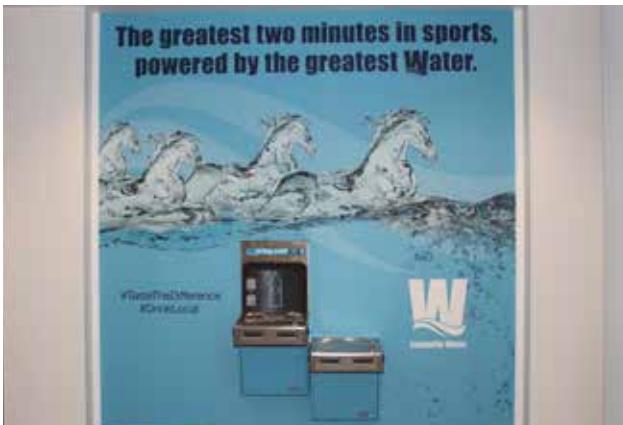
Substance (units)	Minimum Reporting Level	Average	Highest Level Detected	Range of Detections	Compliance Achieved
HAA6Br (ppb)	n/a	6.61	14.69	1.52 - 14.69	n/a
HAA9 (ppb)	n/a	29.77	64.63	7.48 - 64.63	n/a

**IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER:** Availability of Monitoring Data for Unregulated Contaminants for Louisville Water.

In 2018, Louisville Water Company (PWSID: KY0560258) sampled for a series of unregulated contaminants. Unregulated contaminants are those that don't yet have a drinking water standard set by USEPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard. As our customers, you have a right to know that this data is available. If you are interested in examining the results, please contact Kelley Dearing Smith at 502.569.3695 or Louisville Water at 550 South Third Street., Louisville KY 40202.

## GRAB A REUSABLE BOTTLE AND FILL UP

We are in the business of water—providing our customers with the best quality tap water. Louisville pure tap® is easy to get at home, but we know that our busy lives take us all over the city.



We added 33 branded water fountains and bottle-fill stations to the city in 2018. These water-fill stations are in popular places and we've put a message around them—you can't miss them!

You have probably seen the water-fill stations at places such as the University of Louisville campus, KFC YUM! Center, Louisville Zoo and local YMCAs. This year, we added them to the Kentucky International Convention Center and Louisville International Airport and updated the ones at the Zoo. And we have plans for even more in 2019.

## PURE TAP 21 CELEBRATION – A LOOK BACK

Our water is so good that we gave it a name—Louisville pure tap®—and we had a yearlong celebration in 2018 to commemorate 21 years of branding our water. We started with a kickoff party at the Crescent Hill Reservoir and continued with a song contest, carpool karaokes with local celebrities who love our water, and dance parties with our

mascot, Tapper. We wrapped up the festivities with our annual Trick or Treatment event at the Reservoir in October. Thank you to everyone who helped us celebrate this milestone!



# INVESTMENTS MATTER



## Small Water Mains



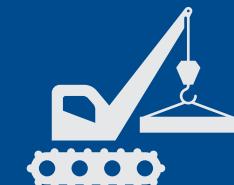
Since 1992, Louisville Water has invested approximately **\$231 million** to inspect, replace and repair **560 miles** of the smaller diameter water mains.

## Large Water Mains

Since 2009, Louisville Water has used **robotic technology** to inspect **92 miles** of the larger diameter water mains.



We've invested approximately **\$39 million** and repaired **150 sections** of pipe.



LouisvilleWater.com

