



2019 WATER QUALITY REPORT

DELIVERING HIGH QUALITY WATER TO YOUR TAP



THE MISSOURI RIVER: KANSAS CITY'S MOST IMPORTANT NATURAL RESOURCE

In the grip of a bone-chilling cold snap in the winter of 2018, a KC Water customer wrote on Facebook:

“I want to shout out to the workers who worked all night last night on the water main break... Thank you for your tireless efforts. You all deserve an award! WATER is ON!!! Blessings to all of you at KC Water Department! You have no idea how much you are appreciated!”

Those KC Water associates are not alone. Nearly 900 associates – water professionals who live and work in Kansas City and who are also customers – bring a special commitment to work every day.

That commitment: Excellent water, wastewater, and stormwater services while serving today's customers and building a legacy for future generations.

We have this commitment because we recognize we are just the current stewards of Kansas City's most important natural resource: The Missouri River. We treat about 90 million gallons of water every day and deliver it to more than 460,000 residents and 32 wholesale customers, including many nearby local water utilities.

The Missouri River is known as Big Muddy, and for good reason. Tons of silt – and everything it contains – drains from the river's half-million-square-mile watershed.

Federal and Missouri laws and regulations limit drinking water contaminant levels. Through

the hard work of more than 200 dedicated associates who work in our Water Supply, Laboratory, and Water Distribution Repair divisions, the water delivered to Kansas Citians surpassed those standards in 2018.

Details of that accomplishment are contained in this annual Water Quality Report, along with other information customers often ask about drinking water quality. More information is available on our website and from other sources mentioned in this report. We welcome questions and comments about water quality.

Water that you see in your taps, tubs, and sinks is only possible through a system you do not see: Intake and treatment facilities, storage tanks, pump stations, and 2,800 miles of pipe needed to reach every corner of a 320-square-mile city.

KC Water is committed to maintaining and updating this system. This fiscal year, we will invest \$210.5 million on 48 projects to improve the water infrastructure, and \$141.5 million on 51 projects in our federally mandated Smart Sewer program.

These investments paid through monthly water bills are designed to improve drinking and environmental water quality, protect public health, reduce operational costs, improve efficiency, and increase reliability.

Human life relies on water to survive. Kansas City is perfectly located on the Missouri River as a great place to live, work, and play. On behalf of all KC Water associates, thank you for the privilege of bringing this precious resource into your homes.

– Terry Leeds, Director, KC Water

THE VALUE OF LOCALLY TREATED TAP WATER

RELIABLE

Through the Rocky Mountains and most of the Great Plains, the Missouri River comes from more than half a million square miles in all or part of 10 states and two Canadian provinces.

SAFE

Experienced, trained, and certified treatment plant operators have won statewide recognition for their performance and expertise. Certified water distribution system operators, chemists, and technicians check thousands of samples each year for more than 250 constituents.

AFFORDABLE

Kansas City's drinking water costs a little more than half a cent per gallon. Bottled drinking water at a wholesale store averages \$1.16 cents per gallon, more than 180 times the cost of Kansas City tap water.

TASTES GREAT

We treat drinking water not only to be safe, but also to taste and smell good. We work hard to meet and exceed your expectations for quality refreshment and taste.

WATER QUALITY DATA TABLE

REGULATED CONTAMINANTS

Regulated Contaminants	Collection Date	Highest Test Result	Range of Sampled Result(s)	Unit	MCL	MCLG	Typical Source	In Compliance
Atrazine	7/3/18	0.51	ND - 0.51	ppb	3	3	Runoff from herbicide used on crops	✓
Barium	5/31/2018	0.014	ND - 0.014	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	✓
Chromium	5/31/2018	5	ND - 5	ppb	100	100	Discharge from steel and pulp mills	✓
Cyanide	3/10/2018	34	ND - 34	ppb	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories	✓
Fluoride	4/6/2018	0.968	0.226 - 0.968	ppm	4	4	Natural deposits; water additive which promotes strong teeth	✓
Nitrate-Nitrite	6/30/2018	4.37	0.441 - 4.37	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	✓
Selenium	5/31/2018	2.8	ND - 2.8	ppb	50	50	Erosion of natural deposits	✓

BYPRODUCTS OF DRINKING WATER DISINFECTION

Disinfection Byproducts	Sample Point	Highest LRAA	Range of Sampled Result(s) (low - high)	Unit	MCL	MCLG	In Compliance
HAA5	DBPDUAL-03	21	9 - 25.7	ppb	60	0	✓
TTHM	DBPDUAL-04	8	0.61 - 14.3	ppb	80	0	✓

TOTAL ORGANIC CARBON

TOC	Collection Date	Highest Value	Range of Sampled Result(s)	Unit	TT	Typical Source	In Compliance
Carbon, Total	3/11/2018	4.82	2 - 4.82	ppm	0	Naturally present in the environment	✓

LEAD AND COPPER

Lead and Copper	Collection Date	90% of KC water levels were less than	Range of Sampled Result(s)	Unit	AL	Sites Over AL	Typical Source	In Compliance
Copper	2014 - 2016	0.01	0.002 - 0.027	ppm	1.3	0	Corrosion of household plumbing systems	✓
Lead	2014 - 2016	3	1 - 60	ppb	15	1	Corrosion of household plumbing systems	✓

WATER CLOUDINESS (TURBIDITY)

% of samples in compliance with standard	Months Occurred	Monitoring Violation	Highest Single Measurement	Month Occurred	Sources	In Compliance
100	12	No	0.1 NTU	Dec	Soil Runoff	✓

MICROBIOLOGICAL CONTAMINANTS

Microbiological	Result	MCL	MCLG	Typical Source	In Compliance
Coliform (TCR)	In the month of October, 0.55% of samples returned as positive	TT	N/A	Naturally present in the environment	✓

UNREGULATED CONTAMINANT MONITORING RULE

Unregulated Contaminant Monitoring Rule	Collection Date of Highest Value	Highest Value	Range of Sampled Result(s)	Unit
Molybdenum, Total	5/31/2018	0.003	ND - 0.003	ppm
Strontium	5/31/2018	0.237	ND - 0.237	ppm
Vanadium, Total	5/31/2018	0.002	ND - 0.002	ppm

ABBREVIATIONS AND DEFINITIONS

This report shows monitoring results for data collected from Jan. 1 to Dec. 31, 2018.

90th percentile: For Lead and Copper testing, 10% of test results are above this level and 90% are below this level.

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

HAA5: Haloacetic Acids (mono-, di- and tri-chloroacetic acid, and mono- and dibromoacetic acid) as a group.

LRAA: Locational Running Annual Average, or the locational average of sample analytical results for samples taken during the previous four calendar quarters.

MCLG: Maximum Contaminant Level Goal, or 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.

MCL: Maximum Contaminant Level, or 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.

N/A: not applicable.

ND: not detectable at testing limits.

NTU: Nephelometric Turbidity Unit, used to measure cloudiness in drinking water.

ppb: parts per billion or micrograms per liter.

ppm: parts per million or milligrams per liter.

RAA: Running Annual Average, or the average of sample analytical results for samples taken during the previous four calendar quarters.

Range of Results: Shows the lowest and highest levels found during a testing period, if only one sample was taken, then this number equals the Highest Test Result or Highest Value.

SMCL: Secondary Maximum Contaminant Level, or the secondary standards that are non-enforceable guidelines for contaminants and may

cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor or color) in drinking water. EPA recommends these standards but does not require water systems to comply.

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

TTHM: Total Trihalomethanes (chloroform, bromodichloromethane, dibromochloromethane, and bromoform) as a group.



THERE'S ALWAYS SOMETHING IN WATER

Drinking water may reasonably be expected to contain at least small amounts of some contaminants, but that doesn't mean it's a health risk.

Federal and state regulations limit the amount of certain contaminants in water. KC Water constantly conducts tests to ensure that water from your tap is safe to drink. No regulatory violations were found in drinking water provided by KC Water in 2018.

Contaminants that may be present in water:

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 that are byproducts of industrial processes and petroleum production. These contaminants also can 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.

KEEPING WATER SAFE FOR YOU

KC Water – today and for generations – takes and has taken proactive measures to protect public health. We are confident in our treatment process. Constant testing by our certified laboratory validates the safety of water we produce.

We recognize that customers undergoing chemotherapy, organ transplant recipients, people with HIV/AIDS or other immune system disorders, elderly persons, pregnant women, and infants, among others, may be vulnerable to constituents that may be in drinking water.

These customers, their caregivers, and anyone who is immunocompromised should ask a health care provider about precautions they may wish to take with regard to tap water. Regarding some of these constituents:

LEAD AND COPPER

We take proactive measures to ensure lead and copper are not present in the water we produce. If these constituents are found, the most typical source is corrosion of fixtures in home or business plumbing. Copper and lead could leach into water that sits for a time in plumbing fixtures.

We encourage customers to replace any plumbing that may contain lead or copper. To find a list of licensed plumbers, visit <http://kcmo.gov/planning/contractor-licensing-2/>. Alternatively, here are steps to consider:

- Use only cold water for drinking and cooking, especially water used to make infant formula, beverages such as coffee or tea, and ice.
- Run cold water from 30 seconds to 2 minutes, at least until the temperature changes.
- Use a water filter certified to meet NSF Standard 53 for lead removal.

CRYPTOSPORIDIUM

KC Water's treatment process meets state and federal standards for removal of cryptosporidium, a microbial parasite found in rivers and streams nationwide. However, filtration cannot guarantee 100 percent removal, and current test methods cannot determine if these organisms are dead or if they might cause disease.

Cryptosporidium must be ingested to cause infection. Symptoms include nausea, diarrhea, and abdominal cramps. Most healthy individuals are able to overcome any infection, but immunocompromised people are at greater risk of developing severe, life-threatening illness.

FLUORIDE

Fluoride is a naturally occurring constituent in surface water caused by erosion of natural deposits, fertilizer runoff, and factory discharges. To promote strong teeth, Kansas City, Mo., voters in 1980 approved water fluoridation. Fluoride in our water meets the Centers for Disease Control and Prevention's optimal target fluoride level and is, on average, well within federal and state regulations.

OTHER CONSTITUENTS

KC Water meets or exceeds federal and state regulations for water safety, but customers may wish to know the level of other constituents for health or other reasons. Included are immunocompromised customers as well as customers concerned about dietary intake of sodium; households with water softening equipment; fish aquarium enthusiasts; brewers and distillers; culinary specialists, or anyone who uses water as an ingredient in manufactured products or beverages.

KC Water checks the water we produce for more than 250 organic and inorganic constituents, including but not limited to atrazine, barium, chromium, cyanide, nitrate-nitrite, selenium, copper, lead, coliform, molybdenum, strontium, vanadium, alkalinity and acidity (pH), boron, calcium, chloride, color, foaming agents (surfactants), iron, magnesium, phenols, potassium, silica, sodium, sulfate, total dissolved solids, chlorine and zinc.

If you have questions or concerns about these constituents or any constituent that may be in water, here are options to learn more:

- Call the KC Water Laboratory at 816-513-7000.
- Check the Missouri DNR Water Watch at <http://dnr.mo.gov/DWW/indexSearchDNR.jsp>. Enter "1010415" in the Water System Number box.
- Have the water in your home or business tested by a private laboratory for a fee. Information about testing laboratories can be found at <http://dnr.mo.gov/env/wpp/labs/index.html>.
- Contact the EPA's Safe Drinking Water Hotline at 800-426-4791, or visit <http://water.epa.gov/drink/info/lead/index.cfm>.

DOING MORE TO MAKE KC WATER THE BEST

Beyond making sure that the water we deliver is safe and healthy, we go beyond the regulatory requirements to adjust for aesthetic factors and the cosmetic effects that water may cause. Our objective is to deliver a high-quality product that is excellent not only for drinking, but also for bathing, laundering, dishwashing, and recreational uses such as spray toys and pools – water that is excellent in every respect while also protecting the environment.

HARDNESS

“Hardness” describes the mineral content in water. Hardness is measured by the amount of calcium carbonate in a liter of water. Calcium carbonate also is found in baking powder, toothpaste, antacids, dietary supplements, pharmaceutical tablets, and other consumer products.

KC Water softens Missouri River water considerably at our Water Treatment Plant. Water we deliver contains about 100 parts

per million (ppm) of calcium carbonate per liter, meaning it is considered “moderately hard” on the water hardness scale. (Soft water is 75 ppm or less; moderately hard is 75-150 ppm; hard water is 150-300 ppm, and very hard water is greater than 300 ppm.)

TASTE, ODOR, AND COLOR

KC Water works hard to make sure we consistently deliver great-tasting, high-quality water, including special treatment to control the taste, odor, and color of the water you use.

The Missouri River, while abundant, can also be very fickle. Spring rains, fall leaves, changing Midwest temperatures, melting snow from the Rockies, and releases from upstream reservoirs affect river water quality. Silt and natural organic matter sometimes cause earthy and musty odors,



off flavors, and a slight greenish tint.

You may or may not notice these natural changes, depending on your unique sense of smell and taste. If you do, rest assured: KC Water performs continuous monitoring and extensive laboratory testing to ensure that safe water is delivered to you and that it meets all state and federal safety requirements for drinking water.

STAY INFORMED ABOUT WATER QUALITY

Water quality is susceptible to weather and other natural occurrences or infrastructure issues such as water main breaks. We notify affected customers through several channels:



www.kcwater.us. Any water quality situation that requires public notice or action will be posted on the KC Water website. Additional information about public notices related to water quality issues is available at www.kcwater.us/boil-advisories-and-orders.

AlertKC: KCWater and other Kansas City, Mo., departments use this free text notification system to provide authoritative, rapid, and secure information about situations

that could affect life and property, including water quality, severe weather, and flooding. Register at <http://kcmo.gov/alertkc>.

Social Media: Urgent information about water quality issues is posted on these KC Water channels:

Facebook: www.facebook.com/kcmowater

Twitter: [@kcmowater](https://twitter.com/kcmowater)

Nextdoor: www.nextdoor.com

Traditional Media: Check your favorite media outlet, or see KC Water news releases at www.kcwater.us/news.

STATE OVERSIGHT AND ASSESSMENT OF OUR WATER SOURCE

The Missouri Department of Natural Resources conducted a source water assessment to see how susceptible our water source – the Missouri River and 14 wells fed by the river and groundwater – may be to potential contaminants. The agency defined our water source area and inventoried contaminants within that area to check for potential water quality threats.

Data from that assessment is included in this Water Quality Report and at <http://drinkingwater.missouri.edu/swip/swipmaps/pwssid.htm>. Use Public Water Supply System identification code MO-1010415 on that site for more KC Water data and information.



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CUSTOMER SERVICE: 816-513-1313 or 311 • www.kcwater.us/forms

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