



2023 City of Topeka Annual Water Quality Report Covering Calendar Year 2022

This report is a snapshot of the quality of the water we provided last year. It includes details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. For more water quality information, visit the EPA website at <http://water.epa.gov/drink/> or the City of Topeka at <http://www.topeka.org>. You are invited to attend a water quality meeting on August 2, 2023 at 6 pm at 620 SE Madison St. For special accommodations, call 785-368-0943 or TTY 785-368-3603 8 am - 5 pm by July 28, 2023. For any questions related to water quality, please contact Katie Tietsort at 785-368-0943.

The City of Topeka withdraws water from the Kansas River using two intakes on the south bank. The intakes are capable of pumping up to 110 million gallons of untreated water per day and Topeka consumes an average of 21 million gallons per day. Contaminants may be present in the source water before it is treated. These contaminants may 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 occur naturally or result from 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 storm water runoff, agriculture and residential users. Radioactive contaminants, which can occur naturally or result from mining activity. Organic contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, may come from gas stations, urban storm water runoff and septic systems. In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) provides regulation which limits the amount of certain contaminants in water provided by public water systems. We treat our water according to EPA's regulations.

During the 2022 calendar year, we had the below noted violation of drinking water regulations. We monitor for turbidity twenty-four hours per day and seven days per week. This tells us whether we are effectively filtering the water because turbidity can interfere with disinfection and provide for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. Water samples for March 2022 showed that 6 percent of turbidity measurements were over 0.3 turbidity units. The standard is that no more than 5 percent of samples may exceed 0.3 turbidity units per month. On March 23rd, we experienced unusually high turbidity on the Kansas River due to the first heavy rainfall of the season that washed a lot of organic matter into the river. Our filtering process was impacted by these high turbidity levels and was unable to treat the water to the full compliance levels for approximately 13 hours. We continue to monitor the quality of water in the Kansas River and make appropriate chemical and plant process changes to produce drinking water that meets or exceeds water quality standards.

Compliance Period	Analyte	Comments
3/1/2022 - 3/31/2022	TURBIDITY	MONITORING, RTN/RPT MAJOR (SWTR-FILTER)

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those 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.

The sources of drinking water (both tap and bottled water) include rivers, lakes, 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 pick up substances resulting from the presence of animals or from human activity. 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling EPA's Safe Drinking Water Hotline (1-800-426-4791). Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline (1-800-426-4791). *Cryptosporidium* is a microbial parasite found in surface water throughout the United States. Although filtration removes *Cryptosporidium*, the most commonly used filtration cannot guarantee 100% removal. Monitoring of our source water indicates the presence of these organisms. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised individuals are encouraged to consult their doctor regarding precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may spread through other means than drinking water.

Our water system collects and tests a minimum of 100 samples per month in accordance with the Revised Total Coliform Rule for microbiological contaminants. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If limits are exceeded, the water supplier must notify the public.

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. Your water system is responsible for providing high quality drinking water, but cannot control the variety of material 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/safewater/lead>.

The following tables list all of the drinking water contaminants which were detected during the 2022 calendar year. The presence of these contaminants does not necessarily indicate the water poses a health risk. Unless noted, the data presented in this table is from testing done January 1– December 31, 2022. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old. **The bottom line is that the water provided to you is safe.**

Disponible en el Español. Teléfono 785-368-3111. Sitio Web de Internet <http://www.topeka.org/utilities/drinking-water-quality/>.

2022 Summary of Detected Contaminants in City of Topeka Water

REGULATED CONTAMINANTS

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Date	Likely Source of Contamination
Inorganic Contaminants						
Barium	29	PPB	2000	2000	5/10/22	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	0.48 (Range <0.25 - 0.65)	PPM	4	4	Jan - Dec 2022	Water additive which promotes strong teeth.
Nitrate	1.1	PPM	10	10	6/21/22	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium	1.7	PPB	50	50	5/10/22	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Copper (90 percentile) Number above AL	(Range 0.0033 - 0.051) (90% = 0.030) Number > AL = 0	PPM	AL = 1.3	1.3	Jun - Aug *2020	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.
Lead (90 percentile) Number above AL	(Range N.D. - 28) (90% = 2.4) Number > AL = 2	PPB	AL = 15	0	Jun - Aug *2020	Corrosion of household plumbing systems; Erosion of natural deposits.

*We have monitored for copper and lead in specific homes identified with lead pipe or copper pipe with lead solder since 1992. Due to the low levels detected and because concentrations are not expected to vary significantly from year to year, the State requires us to monitor these homes only once every three years.

Organic Contaminants

Atrazine	0.51 (Range 0.098 - 1.4)	PPB	RAA= 3	3	Jan - Dec 2022	Runoff from herbicide used on row crops.
Chloramine	3.40 (Range 3.10 - 3.66)	PPM	MRDL MPA = 4	MRDLG = 4	Jan - Dec 2022	Water additive used to control microbes.
Haloacetic Acids* (HAA5)	44 (Range 13.0- 62.0)	PPB	LRAA= 60	N/A	Jan - Dec 2022	By-product of drinking water disinfection.
Trihalomethanes	47 (Range 28.7 - 55.0)	PPB	LRAA= 80	N/A	Jan - Dec 2022	By-product of drinking water chlorination.

*Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Microbiological Contaminants

Total Coliform Bacteria	1.9% in May (Range 0.0% - 1.9%)	%	<5% of Monthly Samples	0	Jan - Dec 2022	Coliform are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful bacteria may be present.
Total Organic Carbon**	1.48 (Range 0.82 - 2.13)	Ratio	Removal Ratio TT > 1.0	N/A	Jan - Dec 2022	Naturally present in the environment.
Turbidity	*93.28% (Range 0.015 - 0.906 NTU)	NTU	TT=< 0.3 NTU 95% of time. TT= 1 NTU Maximum.	N/A	Jan - Dec 2022	Soil runoff. Turbidity is a measure of cloudiness in the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

*Lowest Monthly %< 0.3 NTU. **Total organic carbon (TOC) has no health effects. However, TOC provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk in getting cancer.

SECONDARY UNREGULATED CONTAMINANTS

Definitions of Terms and Abbreviations

Contaminant	Level Detected	Range	Unit of Measure	Date	
Aluminum	0.043	N/A	PPM	5/10/22	AL (Action Limit): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Calcium	38	N/A	PPM	5/10/22	
Chloride	68	N/A	PPM	5/10/22	LRAA (Locational Running Annual Average): Average of sample analytical results for samples taken at a particular monitoring location during previous four calendar quarters.
Magnesium	5.4	N/A	PPM	5/10/22	
Nickel	0.0023	N/A	PPM	5/10/22	MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close the MCLG as feasible using the best available technology.
Potassium	7.1	N/A	PPM	5/10/22	
Silica	4.0	N/A	PPM	5/10/22	MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to human health. MCLGs allow for a margin of safety.
Sodium	57	N/A	PPM	5/10/22	
Sulfate	91	N/A	PPM	5/10/22	MPA (Monitoring Period Average): An average of sample results obtained during a defined time frame (e.g. monthly, quarterly and yearly).
Total Phosphorus (as P)	0.41	N/A	PPM	5/10/22	
TDS	360	N/A	PPM	5/10/22	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.
pH	9.4	9.1 - 9.4	pH unit	Jan - Dec 2022	
Specific Conductance	894	359 - 1098	umhos/cm		
Total Alkalinity (as CaCO3)	76	40 - 132	PPM		
Total Hardness (as CaCO3)	183	118 - 240	PPM	5/10/22	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 contaminants.
Zinc	0.015	N/A	PPM		
Metolachlor	1.1	N/A	PPB	5/16/22	NTU (Nephelometric Turbidity Units): A measurement of water cloudiness.

The likely source of contamination for most secondary contaminants is erosion of natural deposits. The most likely source of contamination for Metolachlor is runoff from herbicide used on row crops.

umhos/cm (Micro-mhos Per Centimeter): A measurement of the ability of a solution to conduct electrical current.

RAA (Running Annual Average): Average of sample results obtained over the most current 12 months and used to determine compliance with MCL.

PPB (Parts Per Billion): Micrograms per liter.

N.D. (Not Detected)

PPM (Parts Per Million): Milligrams per liter.

N/A (Not Applicable)

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