TULSA 2025

ANNUAL WATER QUALITY REPORT

FOR THE PERIOD OF JANUARY 1 - DECEMBER 31, 2024

Este Informe contiene información importante. Se puede obtener una versión en español de este documento en la página web de la ciudad de Tulsa https:// www.cityoftulsa.org/government/departments/water-and-sewer/water-supply/water-quality/. O puede llamar al Centro de Atención al Cliente al Tulsa 311 para pedir una copia impresa.

Our city's top priority is to provide clean, refreshing water to its customers. Tulsa water is safe to drink and free of bacteria and other harmful substances. City chemists and water treatment plant operators test the water when it enters the pipes from our source water lakes. They continue to monitor the water throughout treatment and distribution. When the water leaves the treatment plant and flows toward Tulsa's homes and businesses, it not only meets, but exceeds all federal requirements for public health standards.

Rainwater flows downhill over land surfaces and underground to collect in streams and lakes. As the water travels to our lakes, it dissolves minerals naturally found in rocks and soil. The water can also pick up harmful materials such as pesticides, herbicides and bacteria left in and on the ground after human or animal activity.

Tulsa's drinking water comes from three lakes in northeastern Oklahoma: (1) Lake Oologah on the Verdigris River (in Rogers and Nowata counties), (2) Lakes Spavinaw and Eucha on Spavinaw Creek (in Mayes and Delaware Counties), and (3) Lake Hudson on the Neosho River (in Mayes County). Lake samples are analyzed to determine source water quality. Water flows from the source lakes through large pipes to Tulsa's two drinking water treatment plants, where it is treated to meet drinking water and public health standards. Laboratory professionals and plant operators analyzed over 48,000 samples in 2024 to be sure the water supplied to homes and businesses meets regulatory requirements. This report is a summary of the test results for samples taken during 2024.

The Environmental Protection Agency (EPA) sets limits on the level of harmful substances allowed in treated drinking water. The Food and Drug Administration (FDA) sets similar limits for bottled water.

The Oklahoma Department of Environmental Quality (ODEQ) has studied our source lakes. ODEQ's Source Water Assessment warned that human activities could negatively impact the water. For more information about this study or how the ODEQ works to protect source water, contact ODEQ at (405) 702-8100, or visit **www.deq.ok.gov/waterquality-division/watershed-planning**.

IMPORTANT HEALTH INFORMATION

Drinking water may contain low levels of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. 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 for infections. These groups should seek advice about drinking water from their health care providers. The EPA and Center for Disease Control and Prevention (CDC) offer guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants. For more information, contact the Safe Drinking Water Hotline (800-426-4791), or visit **www.epa.gov/ground-water-and-drinking-water**.

WHICH PLANT TREATS YOUR DRINKING WATER?

Water moves through more than 2,200 miles of underground water lines from Tulsa's treatment plants to water faucets throughout the City of Tulsa. Usually, residents in the north and west portions of Tulsa receive water from the Mohawk plant. Those living in the south and east areas of Tulsa receive water from the A.B. Jewell plant. Both plants serve the central areas of the city. Because of daily changes in supply and demand, both plants can serve all areas of the city when necessary.

CITY OF TULSA

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LEAD IN DRINKING WATER

Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.

Lead in drinking water is primarily from materials and components associated with service lines and private plumbing. The City of Tulsa is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing fixtures.

The City of Tulsa is required to perform 50 customer tap samplings annually for Lead and Copper Rule (LCR) compliance. The Action Level for lead concentration in drinking water is 15 ug/L. When lead above the Action Level is found, the City of Tulsa will provide a pitcher with filter and further investigate to mitigate customer exposure to lead. When water has been sitting in pipes for several hours, customers can minimize the potential for lead exposure by opening the tap and allowing the water to run for 30-120 seconds before drinking or cooking with it. The LCR can be found at **www.cityoftulsa.org/media/27372/2024-lcr-results.pdf**. If you are concerned about lead in your water, you may request to have it tested. More information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800-426-4791),or at **www.epa.gov/safewater/lead**.

To categorize service line materials and ensure the system is free of lead pipes, the City is inspecting service lines through the "True Reads" program to establish the Lead Service Line (LSL) inventory. As part of this project, the City of Tulsa is contracting out meter installations for 145,000 residential customers. During the routine meter change-out process, service line material will be visible, and contractors will inspect the service line for lead. Although it is unlikely, if your service line material is unknown, it may be lead and you will receive an annual notice until the material can be identified. A map showing the results of the service line inventory can be found at **maps.cityoftulsa.org/truereads**. Results are updated as work is completed. The LSL inventory spreadsheet is also available to download on the True Reads website under the section titled *Service Line Consumer Notice Letters*.

In our mission to provide the highest quality water, the City of Tulsa joined the Partnership for Safe Water, a national volunteer initiative developed by the American Water Works Association (AWWA). The goal of Partnership for Safe Water is to provide a new measure of public health protection by exceeding regulatory requirements through optimized plant performance. Both of the City's water treatment plants received the Phase IV President's Award in 2024.

For more information on the City of Tulsa's participation in the Partnership for Safe Water, contact Dustin Davis at (918) 591-4028.

HOW TO CONTACT US

For water quality questions or concerns:
Water Quality Assurance (918) 591-4378

For taste and color concerns or line breaks:
Water Distribution at (918) 596-9488

For billing questions: **Call 311, email tulsa311@cityoftulsa.org or visit www.cityoftulsa.org/utilities**

This report can be found online at:
www.cityoftulsa.org/waterquality

For more information, call our office at (918) 596-1824 or write to TMUA, 175 East 2nd Street Suite 1400, Tulsa, OK 74103.

THE TULSA METROPOLITAN UTILITY AUTHORITY (TMUA) INVITES YOU TO GET INVOLVED

Meetings that include decisions about our water are held on the second and fourth Wednesdays of the month. Agendas are posted on the electronic marquee in the City Hall entrance at 2nd and Cincinnati, and online at **www.cityoftulsa.org/government/meeting-agendas/**. We encourage our customers to participate in the decisions that affect the quality of our drinking water by attending a meeting.

TMUA MEMBERS

Richard Sevenoaks, Chair | Lou Reynolds, Vice-Chair | Rick Hudson, Secretary | Jeff Dunn | Stephanie Vickers-Regan | Jim Cameron | Mayor Monroe Nichols

CITY OF TULSA

cityoftulsa.org/TMUA

CITY OF TULSA 2024 WATER QUALITY DATA

This table shows data for samples collected during 2024 (unless otherwise noted). Analyses made by professionals after water treatment showed the levels of all contaminants found were much less than the maximum allowable levels established by the state and federal regulatory agencies.

Regulated Contaminants	Unit	Ideal Goal (MCLG*)	Highest Level Allowed (MCL*)	Our Tap Water	Compliance	Likely Source of Contaminants
Inorganic Compounds						
Atrazine	ppb*	3	3	Highest Running Annual Avg.: 0.360 Range detected: 0.217 – 0.511	Yes	Runoff from herbicide used on row crops.
Barium	ppm*	2	2	Highest Level: 0.072 Range detected: 0.036 – 0.072	Yes	Naturally present in the environment, drilling waste, metal refineries.
Chlorite	ppm	0.8	1	Highest Level: 0.342 Range detected: 0.076 – 0.342	Yes	By-product of drinking water disinfection.
Copper	ppm	1.3	1.3 (AL*)	90th percentile = 0.312; 0 sites above AL Range detected: 0 – 0.550	Yes	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives.
Fluoride	ppm	4	4	Average detected: 0.69** Range detected: 0.26 – 0.85	Yes	Erosion of natural deposits, water additive which promotes strong teeth, discharge from fertilizer and aluminum factories.
Lead	ppb	0	15 (AL)	90th percentile = 1.67, 1 site above AL Range detected: 0 – 32.9	Yes	Corrosion of household plumbing systems, erosion of natural deposits.
Nitrate/Nitrite Total	ppm	10 / 1	Nitrate=10 Nitrite=1	Highest Level: 0.28 Range detected: 0 – 0.28	Yes	Naturally occurring, fertilizers, sewage treatment plants, leaching from septic tanks, erosion of natural deposits.
Disinfection Residual						
Chloramine as Chlorine	ppm	4	4.0 (MRDL*)	Highest Running Annual Avg.: 2.5 Range detected: 1.6 – 3.3	Yes	Water additive used to control microbes.
Disinfection By-Products						
Total Trihalomethanes	ppb	N/A	80 (LRAA*)	Highest Locational Running Annual Avg. (LRAA): 36 Range detected: 19 – 52	Yes	By-product of drinking water disinfection.
Haloacetic Acids	ppb	N/A	60 (LRAA)	Highest Locational Running Annual Avg. (LRAA): 15 Range detected: 4.4 – 24	Yes	By-product of drinking water disinfection.
Precursor Removal						
Total Organic Carbon	N/A	N/A	TT* = Ratio must be greater than or equal to 1.00 for compliance*** (RAA*)	Running Annual Average: 1.06 Lowest Month for Removal: February 0.92	Yes	Naturally found in the environment.
Microbiological						
Coliform Bacteria	CFU*	0	Presence of Coliform bacteria in < 5% of samples	Month having the highest % positive: September 3 positive Coliform results in 199 samples: 1.51%	Yes	Naturally found in the environment.
Clarity						
Turbidity	NTU*	N/A	TT*= less than 0.3 NTU 95 percent of the time	Lowest monthly % of samples with < 0.3 NTU: 100% Highest single reading: 0.10	Yes	Soil runoff.
Radiological						
Gross Alpha	pCi/L*	0	15	< 3.00	Yes	Erosion of natural deposits.
Gross Beta	pCi/L	0	50****	< 4.00	Yes	Decay of natural and man-made deposits.
Radium 226	pCi/L	0	5 (Combined Total)	< 1.00	Yes	Erosion of natural deposits.
Radium 228	pCi/L	0		< 1.00	Yes	Erosion of natural deposits.
Uranium Total	ppb	0	30	< 1.0	Yes	Erosion of natural deposits.
Secondary Contaminants		**Recommended Level (Non-Health Based Standards)**				
Chloride	ppm	250		Average detected: 14.5 Range detected: 11.3 – 21.4		Naturally present, brine from oilfield operations.
pH	su*	6.5 – 8.5		Range detected: 7.6 – 8.5		Measure of acidity. Naturally present, adjusted in drinking water treatment.
Sulfate	ppm	250		Average detected: 25.2 Range detected: 4.05 – 62.8		Naturally present in the environment.
Other Required Monitoring		**Recommended Level**				
Cryptosporidium		Second round of monitoring (over 48 month duration) was completed in 2017. Detections were found in source water only and were not detected at levels of concern; Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.				
Sodium	ppm	Standard not established		Average detected: 10.7 Range detected: 8.41 – 14.1		Naturally occurring, urban stormwater runoff or discharge from sewage treatment plants.

UCMR5 Monitoring: The City of Tulsa has completed the Unregulated Contaminant Monitoring (UCMR5) in 2023, which required monitoring for Lithium and 29 Per- and Polyfluoroalkyl Substances (PFAS). Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Results indicate no detectable levels of PFAS and Lithium present in drinking water.

* Terms and Abbreviations used in the table are located on the next page.
** The U.S. Public Health Service recommends a fluoride concentration of 0.7 mg/L (parts per million [ppm]) to maintain dental cavity prevention benefits and reduce the risk of dental fluorosis. Tulsa ordinances require the maximum content of fluoride to be no more than 0.7 ppm.
*** Compliance based on running annual average of TOC removal ratios.
**** The MCL for beta particles is 4 mrem*/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

HOW TO READ TULSA'S WATER QUALITY REPORT

EPA has established National Primary Drinking Water Regulations (NPDWRs) that set mandatory water quality standards for drinking water contaminants. These are enforceable standards called "maximum contaminant levels" (MCLs) which are established to protect the public against consumption of drinking water contaminants that present a risk to human health.

Regulated Contaminants — As required by the Oklahoma Department of Environmental Quality, the City of Tulsa tests for a total of 34 different regulated contaminants on a yearly basis — this includes more than 48,000 water quality tests performed in 2024. The City of Tulsa is required to report any detectable regulated contaminant, even if levels found were well below the maximum contaminant level. The attached table lists all regulated contaminants that were detected during water quality monitoring in 2024.

- To determine if a particular contaminant is present in your drinking water at a level that is near or exceeds federal or state guidelines; compare the level shown in the "Our Tap Water" column to the level shown in the "Highest Level Allowed (MCL)" column.
- You can also compare the level in our tap water to the level shown in the "Ideal Goal (MCLG)" column. Keep in mind that the MCLG level is simply a target goal, not a requirement. Water utilities are currently required to keep contaminant levels below the MCL level, but not below the MCLG level.

Secondary Contaminants — In addition, EPA has established National Secondary Drinking Water Regulations (NSDWRs) that set non-mandatory water quality standards as guidelines for aesthetic considerations such as taste, color, and odor.

- To determine the level of a particular secondary contaminant in your drinking water, compare the 'Average' column to the 'Recommended Level' column.

Unregulated Contaminants — The City of Tulsa participates in Unregulated Contaminant Monitoring every five years. This monitoring helps advance the science of safe drinking water by testing water for contaminants that are not regulated by National Primary Drinking Water Regulations but are known or anticipated to occur at public water systems. This monitoring assists EPA in determining which contaminants may warrant monitoring under the Safe Drinking Water Act.

*TERMS AND ABBREVIATIONS

Some of the terms and abbreviations contained in this report are unique to the water industry and might not be familiar to all customers. Terms used in the table are explained below.

Maximum Contaminant Level (MCL): Highest level of a contaminant allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goal as feasible using the best available treatment technology.

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.

Action Level (AL): Concentration of a contaminant, that if exceeded, triggers treatment or other requirements that a water system must follow.

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

Maximum Residual Disinfectant Level (MRDL): Highest level of a disinfectant allowed in drinking water. There is convincing evidence the addition of disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): Level of a drinking water disinfectant below which there is no known or expected health risk. MRDLGs do not reflect benefit of the use of disinfectants to control microbial contaminants.

Locational Running Annual Average (LRAA): The average concentration calculated at each monitoring location over a 12-month period.

Running Annual Average (RAA): The average concentration calculated over a 12-month period.

Parts Per Million (ppm): Equivalent to milligrams per liter. One ppm is comparable to one drop of water in 13 gallons.

Parts per Billion (ppb): Equivalent to micrograms per liter. One ppb is comparable to one drop of water in 13,000 gallons.

Turbidity: A measure of suspended material in water. In the water field, a turbidity measurement is used to indicate the clarity of water.

Nephelometric Turbidity Unit (NTU): A unit of turbidity measurement.

Standard Unit (su): A measurement of pH.

CFU: Colony Forming Units.

pCi/L: Picocuries per liter (a measure of radioactivity).

Millirem (mrem): The unit of radiation dose.