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### Important Health Information

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 (800-426-4791).

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. The City of Tulsa 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/safewater/lead>.



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 United States Environmental Protection Agency (EPA), American Water Works Association (AWWA), states and the water supply community. Our participation in this program will help ensure that our customers are receiving the highest quality drinking water and are protected from microbial contaminants such as *Cryptosporidium*.  
For more information on the City of Tulsa's participation in the Partnership for Safe Water, contact Rachel Watts (918) 576-5369.

#### 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 Emergency dispatcher at (918) 596-9488**
- For Billing questions: **Customer Service at (918) 596-9511**
- This report can be found on the internet: <https://www.cityoftulsa.org/city-services/water/water-quality.aspx>

#### TMUA members

Jack Neely, Chair  
Lauren Brookey  
Jim Cameron  
Richard Hudson  
Lou Reynolds  
Richard Sevenoaks  
Mayor Dewey Bartlett

<https://www.cityoftulsa.org/city-services/water/tulsa-metropolitan-utility-authority.aspx>

#### The Tulsa Metropolitan Utility Authority (TMUA) Invites You To Get Involved

Meetings that deal with 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 entry at 2<sup>nd</sup> and Cincinnati, and online at <https://www.cityoftulsa.org/our-city/meeting-agendas.aspx>. We encourage our customers to participate in the decisions that affect the quality of our drinking water.

For more information about meetings, call (918) 596-1824 or write to TMUA, 175 East 2<sup>nd</sup> Street Suite 1400, Tulsa, OK 74103.



## Tulsa's Annual Water Quality Report — 2016

*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/city-services/water/water-quality.aspx>

*O puede llamar al Centro de Atención al Cliente al (918) 596-2100 para pedir una copia impresa.*

Our city's top priority is to provide clean, good-tasting water to its customers. Tulsa water is safe to drink and free of bacteria and harmful substances. City chemists and plant operators test the water when it enters the pipes at 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 surpasses all federal requirements for purity.

Rainwater flows downhill both over the land and under the ground to collect in streams and in our lakes. As water travels to our lakes, it dissolves minerals naturally found in rocks and soil. The water can also pick up harmful materials like 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). Water samples from the lakes are analyzed to determine our source water quality.

Water flows from the source lakes through pipes to Tulsa's two water treatment plants, where it is purified to meet drinking water and public health standards. City chemists and plant operators analyze over 12,500 samples each year to be sure the water supplied to homes and businesses is of the highest quality. This report is a summary of test results from samples taken during 2015.

The Environmental Protection Agency (EPA) limits how much of a harmful substance is in the public water supply after water treatment. The Food and Drug Administration (FDA) sets similar limits for bottled water.

The Oklahoma Department of Environmental Quality (ODEQ) has studied our source lakes. Their Source Water Assessment showed that human activities could pollute this water. For more information about this study or how the ODEQ works to protect source water, contact ODEQ at (405) 702-8100, or visit their website at [www.deq.state.ok.us/wqdnew/sourcewater/index.html](http://www.deq.state.ok.us/wqdnew/sourcewater/index.html)

#### 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 2015 Water Quality Data

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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

This table shows data for samples collected during 2015 (unless otherwise noted). Analyses made by professionals after water treatment showed that the levels of all contaminants found were much less than the levels that are cause for concern.

**\*Definitions:**

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

**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 contaminant in drinking water below which there is no known or expected health risk.

**MRDL = Maximum Residual Disinfectant Level:** The highest level of disinfectant allowed in drinking water.

**LRAA = Locational Running Annual Average:** average calculated at each monitoring location

**NTU = Nephelometric Turbidity Unit**

**s.u. = Standard Units**

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

**\*\*Data collected September 2010. Monitoring frequency is in compliance with regulation.**

**\*\*\*Data collected August 2013. Monitoring frequency is in compliance with regulation.**

**\*\*\*\*Data collected quarterly 2014 in conjunction with UCMR3 sampling. Monitoring frequency is in compliance with regulation.**

Regulated Contaminants	Level Found	Minimum	Maximum	Maximum Contaminant Level (MCL*)	MCLG*	Likely Source of Contaminants
Turbidity Level found			0.18	TT*=less than 0.3 NTU 95 percent of the time.	n/a	Soil runoff.
Lowest monthly % meeting regs	100.0%					
Total Coliform Bacteria within distribution system			0.90% (monthly)	Presence of coliform bacteria in more than 5 percent of monthly samples.	0	Naturally present in the environment.
<i>E. coli</i>			1 (routine)	Routine sample with positive <i>E. coli</i> followed by repeat sample with positive Total Coliform or <i>E. coli</i> .	0	Human and animal fecal waste.
Barium	0.048	0.032	0.055	2 parts per million	2	Naturally present in the environment, drilling waste, metal refineries.
Total Chlorine	2.5	1.6	3.2	MRDL* = 4.0 parts per million annual average	4	Water additive to control microbes.
Chlorite	0.35	0.20	0.56	1 part per million	0.8	By-product of drinking water disinfection.
Total Chromium****	0.14	0	0.28	100 parts per billion	100	Discharge from steel and pulp mills; erosion of natural deposits
Copper***	0.19 ppm at the 90th percentile; 0 sites above AL			AL* = 1.3 parts per million (ppm) at 90th percentile	1.3	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives.
Fluoride	0.68	0.35	1.4	4 parts per million	4	Erosion of natural deposits, water additive which promotes strong teeth, discharge from fertilizer and aluminum factories.
Lead****	0 ppb at the 90th percentile; 0 sites above AL			AL* = 15 parts per billion (ppb) at 90th percentile	0	Corrosion of household plumbing systems, erosion of natural deposits.
Nitrate - Nitrite	0.18	0	0.35	Nitrate=10 parts per million; Nitrite=1 part per million	10; 1	Naturally occurring, fertilizers, sewage treatment plants, leaching from septic tanks.
Total Organic Carbon	1.9	0.70	2.9	Results are parts per million. MCL is TT*=percent removal	n/a	Naturally found in the environment.
Haloacetic Acids	21	0	35	60 parts per billion LRAA*. Level found is highest LRAA; Minimum and Maximum are from individual readings.	n/a	By-product of drinking water disinfection.
Total Trihalomethanes	37	13	56	80 parts per billion LRAA*. Level found is highest LRAA; Minimum and Maximum are from individual readings.	n/a	By-product of drinking water disinfection.

Secondary Contaminants	Average	Minimum	Maximum	Recommended Level	Likely Source of Contaminants
pH	n/a	7.2	8.5	Aesthetic level 6.5-8.5 s.u.*	Measure of acidity. Naturally present, adjusted in drinking water treatment.
Chloride	16	11	13	Aesthetic level 250 parts per million	Naturally present, brine from oilfield operations
Sodium	10	6.5	12	Standard has not been established	Naturally occurring, urban stormwater runoff or discharge from sewage treatment plants.
Sulfate	20	4.1	42	Aesthetic level 250 parts per million	Naturally present in the environment.

**ADDITIONAL MONITORING:**

Tulsa was required to participate in Unregulated Contaminant Monitoring (UCMR3) in 2014. 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. The following are those contaminants that were detected during UCMR3 monitoring.

Unregulated Contaminants	Average (parts per billion)	Minimum (parts per billion)	Maximum (parts per billion)
Bromochloromethane	0.020	0	0.092
Chlorate	79.3	0	244
Hexavalent Chromium	0.011	0	0.055
Molybdenum	0.14	0	1.1
Strontium	157	44.8	362
Vanadium	0.57	0	1.2