

# City of Glenpool's 2017 Annual Water Quality Report (Data Collected in or Prior to 2016)

## Water System Number OK3007223

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report (CCR)) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide you with details about where your water comes from, what it contains and how it compares to standards set by regulatory agencies.

### **Where Does My Water Come From?**

The Glenpool Water System (Official Water System Name: Glenpool Water) purchases treated surface water from the City of Tulsa's AB Jewell Water System for distribution.

### **Is My Drinking Water Tested?**

The City of Tulsa and the City of Glenpool routinely monitor for contaminants in your drinking water according to Federal and State laws. The tables in this report show the results of our monitoring for the period of January 1 to December 31, 2016. (Some of this data may be more than one year old because the state allows monitoring for some contaminants less often than once per year.)

### **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).

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The City of Glenpool and the City of Tulsa are responsible for providing high quality drinking water to each customer, but cannot control the variety of materials used in household plumbing components which could introduce pollutants at the tap.

### **How Can I Get Involved?**

Decisions regarding the water provided by the City of Glenpool are made at the city council meetings which are held on the first and third Mondays of each month at 6:00 p.m. at City Hall (12205 S. Yukon Ave.) in the conference center and are open to the public. If you want to learn more, please attend any of our regularly scheduled meetings or see the contact information at the end of this letter.

### **Water Quality Data Tables**

The tables provided list all of the drinking water contaminants that were detected for the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in these tables is from samples collected during the calendar year of the report.



# TULSA'S 2017 ANNUAL WATER QUALITY REPORT

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.



**O**ur 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 analyzed over 32,000 samples in 2016 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 2016.

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 [www.deq.state.ok.us/wqdnw/sourcewater/index.html](http://www.deq.state.ok.us/wqdnw/sourcewater/index.html).

## 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).

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### 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.



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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 two 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 [www.epa.gov/safewater/lead](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 online at: **<https://www.cityoftulsa.org/government/departments/water-and-sewer/water-supply/water-quality/>**

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 (TMUA) AUTHORITY 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 2nd and Cincinnati, and online at <https://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 Hudson, Chair  
Lauren Brookey  
Jim Cameron  
Jack Neely  
Lou Reynolds  
Richard Sevenoaks  
Mayor G.T. Bynum

<https://www.cityoftulsa.org/government/authorities-boards-and-commissions/>



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# CITY OF TULSA 2016 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). Terms and Abbreviations used in the table below are located on the next page.

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

\*\*Current round of testing is ongoing, data calculated over 21 months, testing will complete in 2017; oocysts found in source water only; 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 and/or finished 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.

Regulated Contaminants	Level Found	Minimum	Maximum	Maximum Contaminant Level (MCL*)	MCLG*	Violation	Likely Source of Contaminants
Turbidity Level found			0.26	TT* = less than 0.3 NTU 95 percent of the time	N/A	No	Soil runoff
Lowest monthly % meeting regs	100.0%						
Total Coliform Bacteria within distribution system			0.47% (monthly)	Presence of coliform bacteria in more than 5 percent of monthly samples	0	No	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	No	Human and animal fecal waste
Cryptosporidium***	0.008	0.000	0.100	TT* = Presence of cryptosporidia less than 0.075 oocysts/L over 48 month sampling period	0	No	Human and animal fecal waste
Barium	0.041	0.030	0.058	2 parts per million	2	No	Naturally present in the environment, drilling waste, metal refineries
Total Chlorine	2.5	1.6	3.1	MRDL* = 4.0 parts per million annual avg.	4	No	Water additive to control microbes
Chlorite	0.23	0.05	0.36	1 part per million	0.8	No	By-product of drinking water disinfection
Total Chromium**	0.14	0	0.28	100 parts per billion	100	No	Discharge from steel and pulp mills; erosion of natural deposits
Copper	0.28 parts per million (ppm) at the 90th percentile; 0 sites above AL*			AL* = 1.3 ppm at 90th percentile	1.3	No	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives
Fluoride	0.67	0.24	0.84	4 parts per million	4	No	Erosion of natural deposits, water additive which promotes strong teeth, discharge from fertilizer and aluminum factories
Lead	0.002 parts per billion (ppb) at the 90th percentile; 0 sites above AL*			AL* = 15 ppb at 90th percentile	0	No	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate	0.35	0	1.1	10 ppm	10	No	Naturally occurring, fertilizers, sewage treatment plants, erosion of natural deposits, leaching from septic tanks
Total Organic Carbon	1.9	1.1	3.1	Results are parts per million. MCL is TT* = percent removal	N/A	No	Naturally found in the environment
Haloacetic Acids	17	6	27	60 parts per billion LRAA*. Level found is highest LRAA; Minimum and Maximum are from individual readings	N/A	No	By-product of drinking water disinfection
Total Trihalomethanes	36	24	51	80 parts per billion LRAA*. Level found is highest LRAA; Minimum and Maximum are from individual readings	N/A	No	By-product of drinking water disinfection

Secondary Contaminants	Average	Minimum	Maximum	Recommended Level	Likely Source of Contaminants
pH	N/A	7.1	8.5	Aesthetic level 6.5-8.5 s.u.*	Measure of acidity. Naturally present, adjusted in drinking water treatment
Chloride	13	8	20	Aesthetic level 250 parts per million	Naturally present, brine from oilfield operations
Sodium	10	5.9	14	Standard has not been established	Naturally occurring, urban stormwater runoff or discharge from sewage treatment plants
Sulfate	21	4.1	58	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

# 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** — The City of Tulsa tests for a total of 88 different regulated contaminants on a yearly basis — this includes more than 32,000 water quality tests performed in 2016. 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 2016.

- 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 "Level Found" column to the level shown in the "Maximum Contaminant Level (MCL)" column.
- You can also compare the level found to the level shown in the 'Maximum Contaminant Level 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 four 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 Level Contaminant 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):** Average calculated at each monitoring location

**Parts Per Million (ppm):** Equivalent to milligrams per liter. One ppm is comparable to one drop of water in 55 gallons.

**Parts per Billion (ppb):** Equivalent to micrograms per liter. One ppb is comparable to one drop of water in 55,000 gallons.

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

**Nephelometric Turbidity Unit (NTU):** a unit of turbidity measurement

**Standard Unit (s.u.):** a measurement of pH



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