

**2017 Annual Drinking Water Quality Report**  
***Cherokee County Rural Water District #2***

We're very pleased to provide you with this year's Annual Quality Water Report. We want to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is and always has been, to provide to you a safe and dependable supply of drinking water. Our primary water source is surface water from Lake Tenkiller. We also purchased water from Tahlequah Public Works. TPWA water is surface water from Illinois River and Tenkiller Lake. We are pleased to report that our drinking water is safe and meets Federal and State requirements. Oklahoma DEQ Source Water Assessment and Protection report the qualitative susceptibility rating as moderate. If you have any questions about this report or concerning your water utility, please contact our office at 918-772-2915. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held at 6:00 p.m. on the second Tuesday of each month at the RWD#2 office, 26268 S. 532 Rd., Park Hill, OK.

Rural Water District #2 routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2017. (Some of our data may be more than one year old because the state allows us to monitor for some constituents less often than once per year.) All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

**WATER QUALITY DATA TABLE**

The table below lists all of the drinking water contaminants we 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 this table is from testing done in the calendar year of the report. In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

*Maximum Contaminant Level (MCL)* - 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.

*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.

*Maximum residual disinfectant level goal or (MRDLG)* - The level of a 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.

*Maximum residual disinfectant level or (MRDL)* - 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.

*Parts per million (ppm) or Milligrams per liter (mg/l)* - one part of contaminant per million parts of water.

*Parts per billion (ppb) or Micrograms per liter (ug/l)* - one part of contaminant per billion parts of water.

*Non-Detects (ND)* - Laboratory analysis indicates that the constituent is not present.

*NA:* - Not applicable.

*Avg:* - Regulatory compliance with some MCLs are based on running annual average of monthly samples.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a significant increased risk of having the described health effect.

<b>TEST RESULTS</b>						
Contaminant	Violation Y/N	Highest Level Detected	Range Detected	MCL	MCLG	Likely Source of Contamination
<b>Microbiological Contaminants</b>						
Total Coliform Bacteria System takes <40 monthly samples	None	None	None	5% positive 1 positive	0	Naturally present in the environment

Contaminant	Violation Y/N	Highest Level Detected	MB/L Range Detected	MCL	MCLG	Likely Source of Contamination
<b><u>Inorganic Contaminants</u></b>						
Nitrate - NO <sub>3</sub> (ppm) (as Nitrogen) 2017	None	1 ppm	1.48 – 1.48 ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b><u>Radioactive Contaminants</u></b>						
Beta/photon emitters 2014	None	3.01 mrem/yr	3.01 - 3.01 mrem/yr	4	0	Decay of natural and man-made deposits
Combined Radium 226/228 2014	None	0.842 pCi/L	0.842-0.842 pCi/L	5	0	Erosion of natural deposits.
Gross alpha excluding radon and uranium 2014	None	0.095 pCi/L	0.095-0.095 pCi/L	15	0	Erosion of natural deposits.
<b><u>Lead and Copper</u></b>						
Cooper (ppm) 2013	None	0.084	0.084	1.3	1.3	Erosion of natural deposits; leaching from wood preservatives
<b><u>Regulated Contaminants</u></b>						
Haloacetic Acids (HAA5) (ppb) 2017	None	55 ppb	21.1 – 82.5 ppb	60	no goal for the total	By-product of drinking water chlorination
Total Trihalomethanes (TThm) (ppb) 2017	None	71 ppb	32-109 Ppb	80	No goal for total	By-product of drinking water chlorination
Chlorine 2017	None	2 ppm	1-2	4	4	Water additive used to control microbes

Violations Table			
Violation Type	Violation Begin	Violation End	Violation Explanation
Consumer Confidence Rule			
CCR Report	7-1-2016	1-12-2017	We failed to provide to you, our water customers an annual report that informs you about the quality of our drinking water and characterizes the risks from exposure to contaminants detected in our drinking water
CCR Report	7-1-2017	2014	
Halacetic Acids (HAA5)	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.		
Failure submit OEL report for HAA5	12-30-17	2017	We failed to submit our operational evaluation level (OEL) report to our regulator. The report is needed to determine best treatment practices necessary to minimize possible future exceedances of HAA5
Total Trihalomethanes (TTHM)	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.		
Failure to submit OEL report for TTHM	12-30-17	2017	We failed to submit our operational evaluation level (OEL) report to our regulator. The report is needed to determine best treatment practices necessary to minimize possible future exceedances of TTHM

Not all sample results for HAA5 & TTHm may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.

Total Organic Carbon: The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, 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.

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. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health. 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 EPA's Safe Drinking Water Hotline (800-426-4791).

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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding. We at Rural Water District #2 work around the clock to provide top quality water to every tap. Please call our office at 918-772-2915 if you have any questions.

### 2017 Annual Drinking Water Quality Report

The Tahlequah Public Works Authority is pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality of water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. Our water source is surface water from the Scenic Illinois River and Tenkiller Ferry Lake. The river supplies surface water to the city's 7 million gallon per day treatment facility located at 2260 Riverview Drive on the east side of Tahlequah. The Lake supplies surface water to Tahlequah's state of the art 1.5 million gallon per day Treatment Facility located at 22141 W. 863 Rd. Parkhill, OK.. The Tahlequah Public Works Authority supplies potable water to 5 water districts, The Cherokee Nation and Sequoyah High School Complex, and the City of Tahlequah in Cherokee County.

This report shows our water quality and what it means. In our effort to supply you with the safest possible product, the Water Treatment Facility chlorinates the water supply for disinfection of viruses and bacteria. Fluoride is also added to enhance dental protection. The levels of these two additives are monitored daily to ensure proper dosages are being added. If you have any questions about this report or concerning your water quality, please contact Jerry Linn, Chief Operator and Superintendent at the Tahlequah Water Treatment & Pumping Facility- 918/456-2123. We want you, our valued customer to be informed about your water utility. You are welcome to attend any of our regularly scheduled meetings. They are held at the UTILITIES BUILDING located at 101 North College Ave., Tahlequah. Please contact the office at 918/456-2564 to request the date and time of any particular meeting.

The Tahlequah Water Treatment & Pumping Facility routinely monitors for constituents in your drinking water according to Federal and State laws. The following table shows the results of our monitoring for the period of January 1 to December 31, 2017. Some of the data may be more than one year old because the State allows us to monitor for some contaminants less often than once per year.

#### DEFINITIONS:

- *Maximum Contaminant Level (MCL)* - 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.
- *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)* - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- *Treatment Technique (TT)* A required process intended to reduce the level of a contaminant in drinking water.
- *Parts per million (ppm) or Milligrams per liter (mg/l)* - one part of contaminant per million parts of water. This level corresponds to one minute in two years or a single penny in \$10,000.
- *Parts per billion (ppb) or Micrograms per liter (ug/l)* - one part of contaminant per billion parts of water. This level corresponds to one minute in 2,000 years or a single penny in \$10,000,000.
- *Nephelometric Turbidity Unit (NTU)* - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- *Picocuries per liter (pCi/L)* - picocuries per liter is a measure of the radioactivity in water.
- *Non-Detects (ND)* - Laboratory analysis indicates that the constituent is not present.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or are man-made. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. All 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 the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements

For more information on the services we provide please visit our website at: <http://www.tahlequahpwa.com/>  
Please call our office if you have questions at 456-2564.

**WATER QUALITY DATA**  
**2017**

**MICROBIOLOGICAL CONTAMINANTS**

Substance	MCL	Maximum Level Detected	EPA MCLG (EPA Goal)	2017 Violations	Sources of Contaminant
Total Coliform Bacteria	15 (fifteen) monthly samples monitored per month.	0 samples tested positive in year 2017	0% of monthly samples testing positive for coliform	None	Naturally present in the environment

Substance	MCL	Maximum Level Detected	Lowest Monthly Percentage	2017 Violations	Sources of Contaminant
Turbidity	TT ≤ 0.3 NTU in ≥ 95% of monthly samples taken and TT ≤ 1 NTU in a single sample	0.36 NTU in any single sample in year 2017	≤0.1 NTU in 96% of all samples taken within one month	None	Agriculture, Geological soil runoff

**RADIOCHEMICAL CONTAMINANTS**

Substance	MCL	Maximum Level Detected	2017 Violations	Sources of Contaminant
Alpha Emitters	15 pCi/L	0.198 pCi/L	None	Erosion of Natural Deposits
Beta/Photon Emitters	50 pCi/L	3.09 pCi/L	None	Decay of Natural Deposits

**TOTAL TRIHALOMETHANES (Stage 2 DBP Rule)**

Substance	MCL	Highest Quarterly Running Average	Range of Detections	2017 Violations	Sources of Contaminant
Total Trihalomethanes	80 ppb	52 ppb	20.7 ppb to 101 ppb	yes	Chlorination By-Product

**TOTAL Haloacetic Acids (Stage 2 DBP Rule)**

Substance	MCL	Highest Quarterly Running Average	Range of Detections	2017 Violations	Sources of Contaminant
Total Haloacetic Acids	60 ppb	41.00 ppb	11.2 ppb to 86.5 ppb	yes	Chlorination By-product

**INORGANIC CONTAMINANTS**

Substance	MCL	Maximum Level Detected	EPA MCLG (EPA Goal)	2017 Violations	Sources of Contaminant
Barium	2 ppm	0.038 ppm	2 ppm	None	Drilling waste, natural erosion
Fluoride	4 ppm	0.7 ppm	4 ppm	None	Erosion of natural deposits; water additive which promotes strong teeth
Nitrate (NO3) As Nitrogen	10 ppm	2.0 ppm	10 ppm	None	Runoff from fertilizer use, septic tanks or sewage

**LEAD AND COPPER (Regulated at Customer Tap) Date Sampled December 2017**

Substance	Action Level *	90% Sample Detection	2017 Violations	Sources of Contaminant
Lead	15 ppb	BPQL	None	Corrosion of home water pipes
Copper	1.3 ppm	0.19 ppm	None	Corrosion of home water pipes

\* Action Level – 90% of samples must be below this level.