

# 2016 Annual Water Quality Report Creek County Rural Water District #2

PWS ID# 3001902

Creek County Rural Water District #2 is pleased to share this water quality report with you. It describes to you, the customer, the quality of your drinking water. This report covers January 1 through December 31, 2016. Creek County Rural Water District #2 strives to comply with the strict regulations of both the State of Oklahoma (DEQ) and the U.S. Environmental Protection Agency (EPA), which requires all water suppliers to prepare reports like this every year.

## Is my water safe?

Our source water is purchased water from the City of Tulsa, City of Sapulpa, and Creek County Rural Water District #1. Water purchased from the City of Tulsa serves the northern part of our District, portions of the southeast part of our District, and some areas of the City of Kiefer. The City of Tulsa relies on surface water from two sources: Lake Oologah on the Verdigris River and Lakes Spavinaw and Eucha on Spavinaw Creek. Water from Lake Oologah is treated at the A.B. Jewell Treatment Plant; Water from Lakes Spavinaw and Eucha is treated at the Mohawk Treatment Plant. Water purchased from the City of Sapulpa serves the rural Sapulpa area. The City of Sapulpa relies on surface water from Skiatook Lake and Lake Sahoma. Both sources of water are treated at the Sapulpa Treatment Plant. The water purchased from Creek County Rural Water District #1 serves the southern part of our District, including some areas of the City of Kiefer. Creek County Rural Water District #1 relies on surface water from Lake Heyburn; it is treated at the District #1 Treatment Plant.

As required by the 1996 Safe Drinking Water Act Amendments, the Oklahoma Department of Environmental Quality has completed source water assessments plans (SWAP) for all the systems that we purchase water from. These reports include a delineation of areas surrounding the water sources, and inventory of the regulated and unregulated drinking water contaminants within the delineated areas, and a determination of the systems relative susceptibility to contamination. **The ratings reflect the potential for contamination of source water, not the existence of contamination.** Please contact the ODEQ to discuss the results of this assessment at 405-702-8100 or go to <http://deq.state.ok.us/wqdnew/sourcewater/index.html> for more information.

## For More Information

If you have any questions about this report or concerning your water district, please contact Dorothy Greek at (918) 299-4448 between the hours of 8:00 AM and 5:00 PM, Monday through Friday. We want our valued customers to be informed about their water. You can attend Regular Board of Director's meetings on the second Tuesday of each month, at 5:30 PM, in the District Office, at 2425 West 121<sup>st</sup> Street South (State Highway 117). Agendas are posted twenty-four hours before each meeting on the main door of the office.

Changes are on the horizon for a historic landmark at 81st St. South and Union Ave. in Tulsa. The well known Checkerboard Water Tower is being replaced by a new modern water tower. The old tower has served the customers in the Creek County Rural Water District #2 well for the last 5 decades, but its days are numbered, as a replacement has been constructed just south of its location. The Creek County Board of Directors agreed to borrow \$6.4 million from the USDA for improvements to the water district infrastructure which included the construction of a new water tower in 2016. Construction has been ongoing for the last 11 months, with most of the work completed. The new water tower will hold 500,000 gallons of water, as compared to the old tower, which held only 250,000. CCRWD2 has certainly evolved over the last 50 years and has grown from the original 800 customers to almost 5000 members today, with roughly 280 miles of waterline in the ground. It was originally located on the outskirts of town, in a rural country setting, but now the countryside surrounding it has grown into a bustling area poised for growth, bordered by Glenpool, Jenks, Sapulpa, Bixby and South Tulsa.

**The Oklahoma Department of Environmental Quality (DEQ) wants you to know:**

In order to ensure that tap water is safe to drink, DEQ prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that 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. The sources of drinking water include rivers, lakes, streams, ponds, reservoirs, springs, and wells. More information about contaminants and potential health effects can be obtained by calling EPA's Safe Drinking Water Hotline (800-426-4791).

The source of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surfaces 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.

**Contaminants that may be present in source water include:**

Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; Inorganic contaminants, such as salts and metals, can be naturally occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming; Pesticides and herbicides, may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

**Notes:**

The State allows us to monitor for some contaminants less than once per year because the concentration of these contaminants do not change frequently. Some of our data, though accurate, is more than one year old.

Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

Trihalomethanes and Haloacetic acids are disinfection byproducts. Some people who drink water containing trihalomethanes in excess of the maximum contaminant level (MCL) over many years may experience problems with their liver, kidney, or central nervous system, and may have an increased risk of getting cancer. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Under the Stage 2 Disinfectants/Disinfection Byproduct Rule (D/DBPR), our public water system was required by USEPA to conduct an evaluation of our distribution system. This was known as an Initial Distribution System Evaluation (IDSE), and was intended to identify locations in our distribution system with elevated disinfection byproduct concentrations. The locations selected for the IDSE were used to determine locations for compliance monitoring under the Stage 2 DBPR beginning in 2012. Disinfection byproducts are the result of providing continuous disinfection of your drinking water and they form when disinfectants combine with organic matter naturally occurring in the source water.

## 2016 Monitoring Results for Creek County Rural Water District #2

All test results are for the year 2016 unless otherwise noted

Contaminant	Unit	MCLG Health Goal	MCL EPA's Limits	Level and Range Detected			Potential Source of Contamination
				Tulsa	Sapulpa	Creek Co RWD #1	
<b>Coliform Bacteria</b> Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. If Coliforms are present, this could be an indication of other potential problems.							
Total Coliform	Positive/Negative	0	Limit is 5% positive monthly samples	0.9	0	0	Naturally present in the environment
<b>Radioactive Contaminants</b>							
Beta/photon emitters	pCi/L	0	50	2.657 2.657-2.657	3.23 3.23-3.23	NA	Discharge of drilling wastes. Discharge from metal refineries. Erosion of natural deposits.
<b>Inorganic Contaminants</b>							
Barium	ppm	2	2	0.066 0.058-0.066	0.05 0.05-0.05	NA	Discharge of drilling wastes. Discharge from metal refineries. Erosion of natural deposits.
Fluoride	ppm	4	4	0.83 0.53-0.83	0.4 0.4-0.4	NA	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate [measured as Nitrogen]	ppm	10	10	1 0.0-1.1	0.12 0.12-0.12	0.12 0.12-0.12	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
<b>Synthetic Organic Contaminants</b>							
Glyphosate	ppb	700	700	2.2 0-2.2	NA	NA	Runoff from herbicide use.
<b>Disinfectants and Disinfection Byproducts:</b> Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidney, or central nervous system, and may have an increased risk of getting cancer.							
Chlorine	ppm	MRDLG= 4	MRDL=4	3.0 2.0-3.0	1.0 1-1	1.0 1.0-1.0	Water additive used to control microbes.
				Creek Co. RWD#2 reported 1.4 1.3 - 1.4			
Chlorite	ppm	0.8	1.0	0.363 0.0526-0.363	NA	NA	Byproduct of drinking water disinfectant.
Haloacetic Acids (HAA5)	ppb	NA	60	18 6.1 - 27.3	29 16.4 - 31.9	37 10.3 - 33.1	Byproduct of drinking water chlorination
				Creek Co. RWD#2 reported 27.0 10.3 - 29.4			
Total Trihalomethanes (TTHMs)	ppb	0	80	39 23.9-51.4	78 55.9 - 96.7	54.0 26.3 - 103	Byproduct of drinking water chlorination
				Creek Co. RWD#2 reported 50.0 20.7 - 87.1			
Contaminant	Unit	MCLG Health Goal	Action Level	90 <sup>th</sup> Percentile and Number of Sites over Action Level			Potential Source of Contamination
				Tulsa (2013)	Sapulpa (2015)	Creek Co RWD #1	
<b>Lead and Copper Contaminants</b>							
Copper	ppm	1.3	1.3	0.2834 (0 sites)	0.17 (0 sites)	0.409 (0 sites)	Erosion of natural deposits; Corrosion of household plumbing systems.
				Creek Co. RWD # 2 reported 0.18 (0 Sites)			
Lead	ppb	0	15	2.2 (0 sites)	9 (0 sites)	NA	Corrosion of household plumbing systems; Erosion of natural deposits.
				Creek Co. RWD # 2 reported 0.0 (0 Sites)			

### Violations Table

Public Notification Rule – Creek County RWD #2			
The Public Notification Rule helps to ensure that consumers will always know if there is a problem with their drinking water. These notices immediately alert consumers if there is a serious problem with their drinking water (e.g., a boil water emergency).			
Violation Type	Violation Begin	Violation End	Violation Explanation
Public Notice Rule linked to violation	01/28/2013	2016	We failed to adequately notify you, our drinking water consumers, about a violation of the drinking water regulations.

<b>Total Trihalomethanes (TTHM) - Sapulpa</b>			
Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.			
Violation Type	Violation Begin	Violation End	Violation Explanation
Failure to submit OEL report for TTHM	12/30/2016	03/22/2017	Sapulpa 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.
MCL, LRAA (Local Running Annual Average)	1/1/2016	3/31/2016	Water samples showed that the amount of this contaminant in Sapulpa's drinking water was above it standard (called maximum contaminant level and abbreviated MCL) for the period indicated.
	4/1/2016	6/30/2016	
	7/1/2016	9/30/2016	

**Notes**  
**Total Organic Carbon (TOC)** removal was measured each month and the system met all TOC removal requirements set, unless a TOC violation is noted in the violations section. There is no violation in the violation section.

<b>Unit Descriptions</b>	
<b>Term</b>	<b>Definition</b>
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
pCi/L	picocuries per liter (a measure of radioactivity)
positive samples/month	positive samples/month: Number of samples taken monthly that were found to be positive
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

<b>Important Drinking Water Definitions</b>	
<b>Term</b>	<b>Definition</b>
MCLG	MCLG: Maximum Contaminant Level Goal: 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.
MCL	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.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
MRDLG	MRDLG: Maximum residual disinfection level goal. 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.
MRDL	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.

**Additional Information about Lead.**  
 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. We are 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>.