

2013 Annual Water Quality Report

Creek County Rural Water District #2

PWS ID# 3001902

We are once again pleased to present this year's Annual Water Quality Report. This report is designed to inform our clients of all water testing results between January 1 and December 31, 2013. Our constant goal is to provide a safe and dependable supply of drinking water that meets all state and federal standards. We continually strive to improve water treatment methods and protect our water resources. We are committed to insuring the quality of your drinking water.

Is my water safe?

We provide safe drinking water to your home. Our source water is purchased, pretreated 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 and portions of the southeast part of our District. 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 Sohoma. 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 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.

Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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).

Why are there contaminants in my drinking water?

Drinking water, including bottled water, may reasonably be expected to contain 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. As water travels over the surface of land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up contaminants resulting from animals or human activity: Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;
- Inorganic contaminants, such as salts and metals, which 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, which 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.

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 customers to be informed about their water. You can attend Regular Board of Director's meetings on the second Tuesday of each month, at 6:00 PM, in the District Office, at 2425 West 121st Street South (State Highway 117). Agendas are posted twenty-four hours before each meeting on the main door of the office.

2013 Monitoring Results for Creek County Rural Water District #2

All test results are for the year 2013 unless otherwise noted*

Contaminant	Unit	MCLG Health Goal	MCL EPA Limits	Level and Range Detected			Potential Source of Contamination
				Tulsa	Sapulpa	Creek Co RWD #1	
Coliform Bacteria							
Total Coliform**	Positive/Negative	0	Limit is 5% positive monthly samples	0.4	NA	NA	Naturally present in the environment
Radioactive Contaminants							
Beta/photon emitters	mrem/yr	0	4	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.
Inorganic Contaminants							
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	0.82 0.25-0.82	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	0.4 0.0-0.4	0.16 0.16-0.16	0.41 0.41-0.41	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Disinfectants and Disinfection Byproducts							
Chlorine	ppm	MRDLG=4	MRDL=4	2.0 2.0-2.0	1.0 1.0-1.0	2.0 1.0-2.0	Water additive used to control microbes.
Chlorite	ppm	0.8	1.0	0.21 0.0-0.21	NA	NA	Byproduct of drinking water disinfectant.
Haloacetic Acids (HAA5)	ppb	NA	60	15.0 6.2-32	22.0 13.6-33	47.0 8.15-83.6	Byproduct of drinking water chlorination
				Creek Co. RWD#2 reported 38.0 7.13-106			
Total Trihalomethanes (TTHMs)***	ppb	0	80	39.0 23.0-51.0	69.0 45.8-86.1	71 9.78-146	Byproduct of drinking water chlorination
				Creek Co. RWD#2 reported 102.0 21.3-167.0			
Contaminant	Unit	MCLG Health Goal	Action Level	90 th Percentile and Number of Sites over Action Level			Potential Source of Contamination
				Tulsa	Sapulpa (2012)	Creek Co RWD #1	
Lead and Copper Contaminants							
Copper	ppm	1.3	1.3	0.25 (0 sites)	0.074 (0 sites)	0.402 (0 sites)	Erosion of natural deposits; Corrosion of household plumbing systems.
				Creek Co. RWD # 2 reported 0.846 (0 Sites)			
Lead	ppb	0	15	NA	9 (0 sites)	NA	Corrosion of household plumbing systems; Erosion of natural deposits.
				Creek Co. RWD # 2 reported 0.0 (0 Sites)			

Contaminant	Limit (Treatment Technique)	Level Detected			Violation	Likely Sources of Contamination
		Tulsa	Sapulpa	Creek Co RWD #1		
Turbidity****						
Highest single measurement	1 NTU	0.2 NTU	0.26 NTU	0.21 NTU	No	Soil runoff
Lowest monthly percent meeting limit	0.3 NTU	100%	100%	100%	No	Soil runoff.

Notes

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

**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.

***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.

****Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

***** 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 are no violation in the violation section.

Unit Descriptions

<u>Term</u>	<u>Definition</u>
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
mrem/yr	mrem/yr: milli- Roentagen Equivalent Man (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.

Important Drinking Water Definitions

<u>Term</u>	<u>Definition</u>
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.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level