2017 Annual Drinking Water Quality Report
Creek County Rural Water District #7

We're very pleased to provide you with this year's Annual Drinking Water Quality 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. This report shows our water quality and what it means.

Our water source is surface water drawn from Lake Jackson. An analysis of contamination susceptibility of our source water has been done. The analysis showed that our water's susceptibility to contamination is moderate. This report is available in our office. Information such as potential sources of contamination is listed in the plan.

If you have any questions about this report or concerning your water utility, please contact Charles Linnet, Operations Manager, at 918-827-6575 between the hours of 9:30 a.m. and 3:30 p.m. 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. Meeting dates, times and place are posted on the District's website at www.creekcountyrwd7.ruralwaterusa.com.

Creek County Rural Water District #7 routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st, 2016. Some of our data may be more than one year old because the state allows us to monitor for some contaminants 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 contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk.

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:

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.
BPQL – below practical quantitation limits
Parts per million (ppm) or Milligrams per liter (mg/l)
Parts per billion (ppb) or Micrograms per liter (ug/l)
Parts per trillion (ppt) or Nanograms per liter (nanograms/l)
Parts per quadrillion (ppq) or Picograms per liter (picograms/l)
Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.
Millirems per year (mrem/yr) - measure of radiation absorbed by the body.
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.
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 treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
Maximum Contaminant Level (MCL) - The MCL is 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. **MCLs are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day for a lifetime at the MCL level to have a one-in-a-million chance of having the described health effect.**
Maximum Contaminant Level Goal - The MCLG is 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.

WATER QUALITY DATA						
Contaminant	Violation Yes/No	Highest Level Detected	Range Detected	MCL	MCLG	Likely Source of Contamination
Microbiological Contaminants						
1. Turbidity (NTU) ***(highest single measurement)***	N	.34	.23 - .34	TT = 1 NTU	N/A	Soil runoff
2. Turbidity (NTU) ***(highest monthly level)***	N	100% (below .03 NTU in 100% of monthly samples)		TT ≤ 0.3 NTU in 95% of monthly samples	N/A	Soil runoff
3. Total Organic Carbon	N	1.16 average percent removal ratio	.854-1.427 Percent removal ratio	TT		Naturally present in the environment

Radiochemical Contaminants						
4. Gross Beta (pCi/L)	N	2.59 pCi/L (2012)	2.59-2.59 pCi/L (2012)	50	0	Decay of natural and man-made deposits
5. Gross Alpha (pCi/L)	N	0.695 pCI/L (2012)	0.695-0.695 pCi/L	15	0	Erosion of natural deposits
6. Combined radium 226/228 (pCi/L)	N	.58 pCi/L (2012)	.58-.58 pCi/L	5	0	Erosion of natural deposits
Inorganic Contaminants						
7. Barium (ppb)	N	.008 mg/l (2015)	.008 - .008 mg/l	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
8. Chlorite (ppm)	N	1.13 mg/l	0 – 1.13 mg/l	1	0.8	Water additive used to control microbes
9. Copper (ppm)	N	.119 mg/l (2015)		AL=1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
10. Nitrate - NO_3 (ppm) (as Nitrogen)	N	BPQL mg/L		10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Volatile Organic Contaminants						
11. Haloacetic Acids (HAA5) (ppb)	Y	57 ug/L Maximum annual average	1.16 - 68.8 ug/L	60	N/A	By-product of drinking water chlorination
12. TTHM [Total trihalomethanes] (ppb)	Y	101 ug/L Maximum annual average	1.16 - 68.8 ug/L	80	N/A	By-product of drinking water chlorination

Microbiological Contaminants:

(1) & (2) Turbidity. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

(3) Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (TTHMs) and haloacetic acids (HAA5s). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver, or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

Radiochemical Contaminants:

(4) Gross Beta. Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.

(5) Gross Alpha. Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

(6) Combined Radium 226/228. Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

Inorganic Contaminants:

(7) Barium. Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

(8) Chlorite. Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.

(9) Copper. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

(10) Nitrate. Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

Volatile Organic Contaminants:

(11) Haloacetic Acids. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

(12) TTHMs [Total Trihalomethanes]. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

The table shows that our system uncovered some problems this year. Water samples showed that the amount of the following contaminant in our drinking water was above its standard (called a maximum contaminant level and abbreviated MCL) for the periods indicated. The duration of the violation for trihalomethanes (TTHM) was the 1st quarter of 2016. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer. The duration of the violation for haloacetic acids (HAA5s) was the 1st quarter of 2016. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer. The chlorite violation was for the month of April 2016. Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia. The treatment requirement violation was for the months of April and May 2016. The Interim Enhanced Surface Water Treatment Rule improves control of microbial contaminants, particularly Cryptosporidium, in systems using surface water, or ground water under the direct influence of surface water. The rules builds upon the treatment technique requirements of the Surface Water Treatment Rule. The 2nd quarter of 2016 we failed to submit our operational evaluation level (OEL) report to our regulator for the 1st quarter 2016 haloacetic acids (HAA5s) violation and for the trihalomethanes (TTHM) violation. These reports are needed to determine best treatment practices necessary to minimize possible future exceedences of HAA5s and TTHMs.

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.

Contaminants that may be present in source water before we treat it include:

**Inorganic contaminants*, such as salts and metals, which can be naturally-occurring or result from urban stormwater 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 and residential uses.

**Radioactive contaminants*, which are naturally occurring.

**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 stormwater runoff, and septic systems.

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, we will continue to work at further reducing the levels of TTHMs and HAA5s.

We at Creek County Rural Water District #7 work around the clock to provide top quality water to every tap. 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. We thank you for allowing us to continue providing your family with clean, quality water.