

# Rural Water District No. 5, Osage County

## – Water Quality Report *(covers calendar year 2016)*

**T**his pamphlet lists water quality information for Rural Water District No. 5, Osage County. It includes limited details on the source and quality parameters and how our water compares to Environmental Protection Agency (EPA) and state standards. It's important that customers be aware of the efforts that are made continually to improve their water system. To learn more, attend the regularly scheduled board meetings on the second Wednesday at 7 p.m. at 101 S. Maple at the District's Office in Overbrook. Contact Jim Jolly at 785/224-1227 for more information.

The water source for RWD 5 is from Tri-District, the City of Carbondale and the District's well in Douglas County. Tri-District has an interconnection with the City of Topeka. The water is treated to remove contaminants. A disinfectant is also added to protect the water supply against microbial contaminants.

### A message from EPA

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 treats water according to EPA's regulations. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

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).

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).

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 treatment may include:

■ **Microbial contaminants**, such as viruses and bacteria, which 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 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.

■ **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. Your water system 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 thirty 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 <http://www.epa.gov/safewater/lead>.

■ **Total Coliform Rule (TCR)**: Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio. During 2016, the utility collected three samples per month and all were in compliance.

### Water Quality Data

The table on the reverse side lists all the drinking water contaminants that we detected during the 2016 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless noted, the data presented in this table is from testing done January 1 - December 31, 2016. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old. The bottom line is that the water that is provided to you is safe.

### Terms & Abbreviations

- **Maximum Contaminant Level Goal (MCLG)**: The "Goal" is the level of a contaminant in drinking water below which there is no known or expected risk to human health. MCLGs allow for a margin of safety.
- **Maximum Contaminant Level (MCL)**: the "Maximum Allowed" MCL is the highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using best available treatment technology.
- **Secondary Maximum Contaminant Level (SMCL)**: recommended level for a contaminant that is not regulated and has no MCL.
- **Action Level (AL)**: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements.
- **Technique (TT)**: A required process intended to reduce levels of a contaminant in drinking water.
- **Maximum Residual Disinfectant Level (MRDL)**: 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.
- **Non-Detects (ND)**: Lab analysis indicates the contaminant is not present.
- **Parts per Million (ppm) or milligrams per liter (mg/l)**
- **Parts per Billion (ppb) or micrograms per liter (µg/l)**
- **Picocuries per Liter (pCi/L)**: A measure of the radioactivity in water.
- **Millirems per Year (mrem/yr)**: Measure of radiation absorbed by the body.
- **Period Average (MPA)**: An average of sample results obtained during a defined time frame, common examples of monitoring periods are monthly, quarterly and yearly.
- **Nephelometric Turbidity Unit (NTU)**: A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is not regulated for ground water systems.
- **Running Annual Average (RAA)**: Average of sample results obtained over the most current 12 months and used to determine compliance with MCLs

## Testing Results for Rural Water District No. 5, Osage County

Because of the monitoring schedules, some of the testing results shown below are more than one year old.

Regulated Contaminants	Collection Date	Highest Value	Range (low/high)	Unit	MCL	MCLG	Typical Source
BARIUM	9/9/2015	0.069	0.069	ppm	2	2	Discharge from metal refineries
FLUORIDE	9/9/2015	1	1	ppm	4	4	Natural deposits; Water additive which promotes strong teeth.
SELENIUM	9/9/2015	1.3	1.3	ppb	50	50	Erosion of natural deposits

Disinfection Byproducts	Monitoring Period	Highest RAA	Range (low/high)	Unit	MCL	MCLG	Typical Source
TOTAL HALOACETIC ACIDS (HAA5)	2016	30	15 - 45	ppb	60	0	By-product of drinking water disinfection
TTHM	2016	97	67 - 130	ppb	80	0	By-product of drinking water chlorination

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.

Lead and Copper	Monitoring Period	90 <sup>th</sup> Percentile	Range (low/high)	Unit	AL	Sites Over AL	Typical Source
COPPER, FREE	2012 - 2014	0.49	0.021 - 1.8	ppm	1.3	1	Corrosion of household plumbing
LEAD	2012 - 2014	4.2	1.5 - 7.6	ppb	15	0	Corrosion of household plumbing

Radiological Contaminants	Collection Date	Highest Value	Range (low/high)	Unit	MCL	MCLG	Typical Source
COMBINED RADIUM (-226 & -228)	9/9/2015	2.6	2.6	PCI/L	5	0	Erosion of natural deposits

Secondary Contaminants-Non Health Based Contaminants-No Federal Maximum Contaminant Level (MCL) Established.	Collection Date	Highest Value	Result	Unit	SMCL
ALKALINITY, TOTAL	9/9/2015	280	280	MG/L	300
ALUMINUM	9/9/2015	0.013	0.013	MG/L	0.05
CALCIUM	9/9/2015	34	34	MG/L	200
CHLORIDE	9/9/2015	130	130	MG/L	250
CONDUCTIVITY @ 25 C UMHOS/CM	9/9/2015	1100	1100	UMHO/CM	1500
CORROSIVITY	9/9/2015	0.18	0.18	LANG	0
HARDNESS, TOTAL (AS CaCO3)	9/9/2015	130	130	MG/L	400
IRON	9/9/2015	0.37	0.37	MG/L	0.3
MAGNESIUM	9/9/2015	11	11	MG/L	150
MANGANESE	9/9/2015	0.0088	0.0088	MG/L	0.05
PH	9/9/2015	7.8	7.8	PH	8.5
POTASSIUM	9/9/2015	1.8	1.8	MG/L	100
SILICA	9/9/2015	18	18	MG/L	50
SODIUM	9/9/2015	190	190	MG/L	100
SULFATE	9/9/2015	50	50	MG/L	250
TDS	9/9/2015	610	610	MG/L	500
ZINC	9/9/2015	0.013	0.013	MG/L	5

During the 2016 calendar year, the district exceeded the Maximum Contaminant Level for Trihalomethanes in the last three quarters of the years. #

Some of the drinking water is supplied by other water systems. The table below and continuing on the next page lists all of the drinking water contaminants, which were detected during the 2016 calendar year from the water systems that we purchase drinking water from.

Regulated Contaminants	Collection Date	Water System	Highest Value	Range (low/high)	Unit	MCL	MCLG	Typical Source
ATRAZINE	7/18/2016	CITY OF CARBONDALE	1.6	1.6	ppb	3	3	Runoff from herbicide used on row crops
BARIUM	4/11/2016	CITY OF CARBONDALE	0.078	0.078	ppm	2	2	Discharge from metal refineries
FLUORIDE	7/11/2016	CITY OF TOPEKA	0.6	0.43 - 0.6	ppm	4	4	Natural deposits; Water additive which promotes strong teeth.
NITRATE	6/23/2016	CITY OF TOPEKA	1.6	1.6	ppm	10	10	Runoff from fertilizer use
SELENIUM	5/9/2016	CITY OF TOPEKA	1.6	1.6	ppb	50	50	Erosion of natural deposits

Secondary Contaminants	Collection Date	Water System	Highest Value	Result	Unit	SMCL
ACETOCHLOR	6/21/2016	CITY OF TOPEKA	0.74	0.74	UG/L	
ALKALINITY, TOTAL	4/11/2016	CITY OF CARBONDALE	110	110	MG/L	300
ALUMINUM	5/9/2016	CITY OF TOPEKA	0.039	0.039	MG/L	0.05
CALCIUM	5/9/2016	CITY OF TOPEKA	45	45	MG/L	200
CHLORIDE	5/9/2016	CITY OF TOPEKA	30	30	MG/L	250
CONDUCTIVITY @ 25 C UMHOS/CM	5/9/2016	CITY OF TOPEKA	410	410	UMHO/CM	1500
CORROSIVITY	5/9/2016	CITY OF TOPEKA	1.5	1.5	LANG	0
DESETHYLATRAZINE	6/21/2016	CITY OF TOPEKA	1.3	1.3	UG/L	
DES-ISOPROPYL-ATRAZINE	6/21/2016	CITY OF TOPEKA	0.4	0.4	UG/L	
HARDNESS, TOTAL (AS CaCO3)	5/9/2016	CITY OF TOPEKA	140	140	MG/L	400
MAGNESIUM	4/11/2016	CITY OF CARBONDALE	8.3	8.3	MG/L	150
MANGANESE	4/11/2016	CITY OF CARBONDALE	0.0039	0.0039	MG/L	0.05
METOLACHLOR	6/21/2016	CITY OF TOPEKA	6.9	6.9	ppb	
METRIBUZIN	6/21/2016	CITY OF TOPEKA	0.31	0.31	UG/L	
PH	5/9/2016	CITY OF TOPEKA	9.6	9.6	PH	8.5
PHOSPHORUS, TOTAL	5/9/2016	CITY OF TOPEKA	0.38	0.38	MG/L	5
POTASSIUM	5/9/2016	CITY OF TOPEKA	6.9	6.9	MG/L	100
SILICA	5/9/2016	CITY OF TOPEKA	9.8	9.8	MG/L	50
SODIUM	5/9/2016	CITY OF TOPEKA	31	31	MG/L	100
SULFATE	5/9/2016	CITY OF TOPEKA	80	80	MG/L	250
TDS	5/9/2016	CITY OF TOPEKA	260	260	MG/L	500
ZINC	4/11/2016	CITY OF CARBONDALE	0.0064	0.0064	MG/L	5

During 2016, the water systems that we purchase water from had the below noted violation(s) of drinking water regulations.

Water System	Analyte	Compliance Period	Comments
CITY OF CARBONDALE	TOTAL CARBON	1/1/2016-3/31/2016	DID NOT MEET THE REQUIRED RUNNING ANNUAL AVERAGE (RAA) REMOVAL RATIO
CITY OF CARBONDALE	TOTAL CARBON	4/1/216-6/31/2016	DID NOT MEET THE REQUIRED RUNNING ANNUAL AVERAGE (RAA) REMOVAL RATIO
CITY OF CARBONDALE	TOTAL CARBON	7/1/2016-9/30/2016	DID NOT MEET THE REQUIRED RUNNING ANNUAL AVERAGE (RAA) REMOVAL RATIO
CITY OF CARBONDALE	E. COLI	11/1/2016-11/30/2016	DID NOT COLLECT ENOUGH REQUIRED SAMPLES
CITY OF CARBONDALE	TOTAL CARBON	10/1/2016-12/31/2016	DID NOT MEET THE REQUIRED RUNNING ANNUAL AVERAGE (RAA) REMOVAL RATIO
DOUGLAS CO RWD 3	TTHM	4/1/2016-6/30/2016	EXCEEDED MAXIMUM CONTAMINANT LEVEL (MCL)