Water Quality 2017 Summary

This brochure is developed to educate consumers about their drinking water source and quality; regulations that protect health; programs that protect the high quality of our water supply sources; and treatment processes that our drinking water meets or surpasses all Federal & State standards. The City of Emporia met all federal and state drinking water regulations without exception during 2016 and continues to do so. Values in this report are for finished water leaving the plant except as noted.

Metals (mg/L) EPA sets standards for a number of chemical compounds that can affect our health.

Collection Date: 4/19/16

Analyte	MCL	Average of Plant
Antimony	0.006	<1.0
Arsenic	0.05	<1.0
Beryllium	0.004	<1.0
Cadmium	0.005	<1.0
Chromium	0.1	<1.0
Mercury	0.002	<0.50
Nickel	0.1	<1.0
Selenium	0.05	<1.0
Silver (SMCL)	0.1	<1.0
Thallium	0.002	<1.0
Iron (SMCL)	0.3	<0.010
Manganese (SMCL)	0.05	.0011
Zinc (SMCL)	5.0	<0.0050

Microbiological Quality

Bacteria not a problem with ozone disinfection and chlorine residual in the distribution system.
Turbidity cleaner than the allowable limit because of new filters added in 1996.

Bacteria and other harmful organisms are removed by physical processes and disinfection chemicals. Efficiency of these treatment techniques is monitored by microbiological testing and the clarity of the finished water (turbidity).

Analyte	MCL	Average of Plant
Turbidity (Turbidity units)	TT	.07
Coliform - Distribution System (Organisms/100mL)	TT	No Presence
Residual Chlorine (mg/L)		2.57

Where does your water come from?

The Neosho River augmented by Council Grove Reservoir supplies the City with an adequate supply of water for the future. An assessment of our source water has been completed. For the results of the assessment, please contact us or download the results at www.kdhe.state.ks.us/nps.

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:

**Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operation and wildlife.*

**Inorganic contaminants, such as salt 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 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 storm water 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. We treat our 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.

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, we collected twenty-five samples per month. All samples were in compliance, with one exception.A sampling error.

To learn more, please attend any of the regularly scheduled meetings which are held the first (1:30 pm) and third Wednesdays (7:00 pm) of the month. For more information please contact Phillip Cooper, Water Plant Manager, (620) 340-6370.

Water Quality Data

Unless noted, the data presented in this table is from testing done January 1 - December 31, 2016. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. 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 the water that is provided to you is safe.

Terms & Abbreviations:

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 Contaminant Level (MCL): the highest level of contaminant that is allowed in drinking water. MCLs are set close to the MCLGs allow for a margin of safety.

Action Level (AL): the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow. **Treatment Technique (TT):** A required process intended to reduce levels of contaminate in drinking water.

N/A: not applicable **ND:** non detect at testing **ppb:** parts per billion or micrograms per liter **ppm** parts per million or milligrams per liter .**pCi/l:** picocuries per liter (a measure of radiation).

Testing Results for City of Emporia

Regulated Contaminates	Collection Date	Highest Value	Range (low/high)	Unit	MCL	MCLG	Vio	Typical Source
Barium	4/19/16	0.017	0.017	mg/l	2	2	N	Erosion of natural deposits
Fluoride	4/19/16	.42	0.53-1	mg/l	4	4	N	Additive which promotes strong teeth
Selenium	4/19/16	1.0	1.0	ppb	50	50	N	Erosion of natural deposits
Nitrate	3/28/16	<0.10	<0.10	mg/l	10	10	N	Erosion of natural deposits
Atrazine	5/23/16	<0.30	<0.30	ppb	3	3	N	Runoff of herbicide from row crops
T. Trihalomethane	2016	0	0	ppb	80	N/A	N	By-product of drinking water chlorination
Haloacetic Acids	2016	2.1	2-16	ppb	60	N/A	N	By-product of drinking water chlorination

90th PERCENTILE	Date	Value	Range	Unit		SITES OVER AL	Typical Source
Lead	2014-16	3.5	0.0018-0.005	ppb	AL=15	1	Corrosion of household plumbing system
Copper	2014-16	.036	1.1-25	mg/l	AL=1.3	0	Corrosion of household plumbing system

Secondary Contaim	Date	Value	Range	Unit	SMCL	Typical Source
Aluminum	4/19/16	0.023	0.023	mg/l	0.05	Erosion of natural deposits
Calcium	4/19/16	24	24	mg/l	200	Erosion of natural deposits
Magnesium	4/19/16	8.0	8.0	mg/l	150	Erosion of natural deposits
Sodium	4/19/16	15	15	mg/l	100	Erosion of natural deposits
Potassium	4/19/16	3.3	3.3	mg/l	100	Erosion of natural deposits
Chloride	4/19/16	8.4	8.4	mg/l	250	Erosion of natural deposits
Sulfate	4/19/16	46	46	mg/l	250	Erosion of natural deposits
Total Hardness	4/19/16	94	94	mg/l	400	Erosion of natural deposits
Alkalinity as CAC03	4/19/16	62	62	mg/l	300	Erosion of natural deposits
pH	4/19/16	8.4	8.4	pH units	8.5	Erosion of natural deposits
Conductivity at 25	4/19/16	260	260	umho/l	1500	Erosion of natural deposits
Tot. Dissolved Solids	4/19/16	150	150	mg/l	500	Erosion of natural deposits
Silica	4/19/16	6.4	6.4	mg/l	50	Erosion of natural deposits
Corrosivity	4/19/16	0.0068	0.0068	LI	0-+1.0	Erosion of natural deposits
METOLACHLOR	4/19/16	<0.25	0.4	ppb		Runoff of herbicide from row crops

Total Organic Carbon	Date	# of Samples	RAA	Removal Ratio	Required Removal Ratio

12/01 - 12/31/16 12

Requirements met at the plant are more stringent than requirements on bottled water. 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).

Your Right to Know

Water is one of the most vital elements in our lives, so we must have confidence in its safety and quality.

The U.S. Congress passed the Safe Drinking Water Act in 1974, and reauthorized it in 1986 and 1996. The EPA and states develop and enforce drinking water regulations to protect public health. Emporia's drinking water meets or surpasses these standards.

Commonly Asked Water Quality Questions

What are Cryptosporidium and Giardia?

Is our Water supply at risk?

What is the City doing?

Cryptosporidium and Giardia are protozoan parasites that occur in natural surface waters such as lakes, rivers and streams.

Ingesting ***Cryptosporidium*** oocysts can cause an illness called Cryptosporidiosis. Symptoms of this illness include diarrhea, abdominal cramps, nausea, vomiting, fever and headache.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as a person 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).

The water treatment process used at the City of Emporia facility provides multiple barriers including lime softening, clarification, disinfection, filtration, and the management of filtration procedures which lower the risk of protozoan parasites in finished water. OZONE is our primary disinfectant which destroys bacteria, giardia, cryptosporidium, tastes and odors.

Current regulations provide a treatment technique for ***Giardia*** removal and inactivation under the Surface Water Treatment Rule (SWTR). There is no current regulation for ***Cryptosporidium.***

What is Atrazine?

3 2.20 1.0 RATIO

How does it get into water?

How do you know if herbicides are a problem in our drinking water?

Atrazine is a widely used herbicide that is used to control weeds in the production of corn and sorghum. Atrazine and other herbicides are applied before and after planting, and are also used in urban areas to control weeds along railways.

The maximum contaminant level (MCL) for Atrazine in drinking water is 3 micrograms per Liter (ug/L) using a running annual average. Samples collected quarterly for Atrazine in drinking water have not exceeded the MCL, and therefore, the City of Emporia continues to remain in compliance with the Federal and State requirements.

Does the City test the drinking water for Lead and Copper?

How can Lead and Copper get into your water?

What is the City doing?

The Water Plant Personnel collects samples from the Water Treatment facility and in the City's water distribution system.

Regulatory requirements for the collection of Lead and Copper became effective in 1992 for semi-annual sampling. Follow-up monitoring for Lead and Copper was conducted in 2013. Because of our successful treatment process, we have shown through past sampling Lead and Copper is not a problem in Emporia. Therefore, we are on the reduced monitoring program of testing once every three years.

To date, samples collected from City taps have not exceeded the Action Level (AL). The AL for Lead is 0.015 milligrams per Liter (mg/L) and 1.3 mg/L for Copper. If the AL was exceeded, the public would be notified.

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 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.

Landlords, businesses and schools are encouraged to share this report with non-billed users at their locations. To obtain additional copies free of charge, call us at (620) 343-4244. More information about contaminates and potential health effects can be obtained by calling the USEPA Safe Drinking Water Hotline, 1-800-426-4791.

Additional questions about this report can be directed to:

The City of Emporia
Water Plant
2910 West 24th Avenue
Emporia, Kansas 66801
(620) 340-6370

City Commission meetings are held the first (1:30 p.m.) and third Wednesdays (7:00 p.m.) of the month.

Copies available at the plant or the City Clerk's Office at 104 East 5th.

TOURS Available Upon Request

EMPORIA
City of Emporia

2017

Water At Your Service

Mission:

Provide the City and the surrounding area we serve with an adequate supply of clean, safe, drinking water and properly return this precious resource back to the environment so that its life-sustaining properties can be utilized for generations to come.

Este informe contiene información muy importante sobre su aqua beber. Tradúzcalo o hable con alguien que lo entienda bien.