



Annual Water Quality Report – 2017

Summary for the year 2016



This brochure is a snapshot of the quality of the water that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and State standards. We are committed to providing you with information because informed customers are our best allies. It is important that customers be aware of the efforts that are made continually to improve their water system. To learn more about your drinking water, please attend any of the regularly scheduled meetings which are held on the first and third Monday's of the month at 6:00 P.M. in the Commission room at the Municipal Building.

For more information, please call (620) 421-7020.

Derek Clevenger
Director of Utilities

Your water comes from:

Source Name	Source Water Type
Intake 998	Surface Water

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those 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 we treat it include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, 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 storm water run off, agriculture, and residential users.

Radioactive contaminants, which can be naturally occurring, or the result of mining activity.

Organic contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may 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.

Our water system is tested a minimum of 10 samples per month in accordance with the Total Coliform Rule for microbial contaminants. 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.

Water Quality Data

The following tables list all of the drinking water contaminants which were 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.**

Testing results for: PARSONS, CITY OF				
Microbiological	Result	MCL	MCLG	Typical Source
COLIFORM (TCR)	In the month of October, 1 sample returned as positive	MCL: Systems that Collect Less than 40 Samples per Month - No more than 1 positive monthly sample.	0	Naturally present in the environment

Regulated Contaminants	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
ATRAZINE	06/12/2016	0.76	0.76	ppb	3	3	Runoff from herbicide used on row crops
BARIUM	05/03/2016	0.053	0.053	ppm	2	2	Discharge from metal refineries
NITRATE	05/03/2016	0.45	0.42 – 0.45	ppm	10	10	Runoff from fertilizer use

Disinfection By-products	Monitoring Period	Highest RAA	Range	Unit	MCL	MCLG	Typical Source
TOTAL HALOACETIC ACIDS (HAA5)	2016	46	2 - 61	ppb	60	0	By-product of drinking water disinfection
TOTAL TRIHALOMETHANE (TTHM)	2016	66	44 - 96	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 th Percentile	Range	Unit	AL	Sites Over AL	Typical Source
COPPER, FREE	2014-2016	0.0758	0.011 - 0.25	ppm	1.3	0	Corrosion of household plumbing
LEAD	2014-2016	5.1	1.3 - 7.3	ppb	15	0	Corrosion of household plumbing

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>.

Total Organic Carbon Lowest Month for Removal	Number of Samples	Actual Removal Ratio	Required Removal Ratio	Lowest Monthly Removal Ratio
01/01/2016 – 01/31/2016	12	1.49	1.0 RATIO	1.30

Radiological Contaminants	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
COMBINED RADIUM (-226 & -228)	07/16/2012	1.5	1.5	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	Range	Unit	SMCL
ALKALINITY, TOTAL	05/03/2016	89	89	MG/L	300
ALUMINUM	05/03/2016	0.01	0.01	MG/L	0.05
CALCIUM	05/03/2016	36	36	MG/L	200
CHLORIDE	05/03/2016	20	20	MG/L	250
CONDUCTIVITY @ 25 C UMHOS/CM	05/03/2016	310	310	UMHO/CM	1500
CORROSIVITY	05/03/2016	-0.16	-0.16	LANG	0
HARDNESS, TOTAL (AS CAC03)	05/03/2016	110	110	MG/L	400
MAGNESIUM	05/03/2016	5.5	5.5	MG/L	150
MANGANESE	05/03/2016	0.0053	0.0053	MG/L	0.05
pH	05/03/2016	7.9	7.9	pH	8.5
POTASSIUM	05/03/2016	4.9	4.9	MG/L	100
SILICA	05/03/2016	6.8	6.8	MG/L	50
SODIUM	05/03/2016	17	17	MG/L	100
SULFATE	05/03/2016	28	28	MG/L	250
TDS	05/03/2016	180	180	MG/L	500

Please Note: Because of sampling schedules, results may be older than 1 year.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present.

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 (THMs) and haloacetic acids (HAAs). 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.

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

This notice is being sent to you by the City of Parsons, Kansas. State Water System ID# S5500, Federal ID# KS2009914.
Date distributed:

Tips on conserving water:

1. Check your toilets for leaks. Put a little food coloring in your toilet tank. If, without flushing, the color begins to appear in the bowl within 30 minutes, you have a leak that should be repaired immediately. Most replacement parts are inexpensive and easy to install.
2. Install water-saving shower heads and low-flow faucet aerators. Inexpensive water-saving low-flow shower heads or restrictors are easy for the homeowner to install. Also, long, hot showers can use five to ten gallons every unneeded minute. Limit your showers to the time it takes to soap up, wash down and rinse off. "Low-flow" means it uses less than 2.5 gallons per minute. You can easily install a ShowerStart showerhead, or add a ShowerStart converter to existing showerheads, which automatically pauses a running shower once it gets warm. Also, all household faucets should be fit with aerators. This single best home water conservation method is also the cheapest.
3. For new installations, consider buying "low-flush" toilets, which use 1 to 2-gallons per flush instead of the usual 3 to 5 gallons. Replacing an 18 liter per flush toilet with an ultra-low volume (ULV) 6 liter flush model represents a 70% savings in water flushed and will cut indoor water use by about 30%.
4. Turn off the water after you wet your toothbrush. There is no need to keep the water running while brushing your teeth. Just wet your brush and fill a glass for mouth rinsing.
5. Use your dishwasher and clothes washer for only full loads. Automatic dishwashers and clothes washers should be fully loaded for optimum water conservation. Most makers of dishwashing soap recommend not pre-rinsing dishes which is a big water savings. With clothes washers, avoid the permanent press cycle, which uses an added 20 liters (5 gallons) for the extra rinse. For partial loads, adjust water levels to match the size of the load. Replace old clothes washers. New Energy Star washers use 35-50% less water and 50% less energy per load. If you're in the market for a new clothes washer, consider buying a water-saving frontload washer.



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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 health. MCLGs allow for a margin of safety.

Maximum Contaminant Level (MCL): the “Maximum Allowed” 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.

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.

Treatment Technique (TT): a required process intended to reduce the levels of a contaminant in drinking water.

Maximum Residual Disinfectant Level (MRDL): 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.

Non-Detects (ND): lab analysis indicates that 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.

Monitoring 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 groundwater systems.

Running Annual Average (RAA): an average of sample results obtained over the most current 12 months and used to determine compliance with MCLs.

AVERAGE WATER USAGE

Estimates vary, but each person uses 80-100 gallons of water per day. The largest use of household water is to flush the toilet, and after that, to take showers and baths. Today, we are seeing more toilets and showers that use less water than before.

Typical water use at home

Bath	A full tub is about 36 gallons.
Shower	2 gallons per minute. Old shower heads use as much as 5 gallons per minute.
Toilet flush	3 gallons. Most all new toilets use 1.6 gallons per flush, but many older toilets use about 4 gallons per flush.
Dishwasher	4 to 10 gallons per load, depending on efficiency of dishwasher.
Dishwashing by hand	20 gallons. Newer kitchen faucets use about 2.2 gallons per minutes, whereas older faucets use more.
Clothes washer	25 gallons per load for newer washers. Older models use about 40 gallons per load.
Outdoor watering	5 to 10 gallons per minute