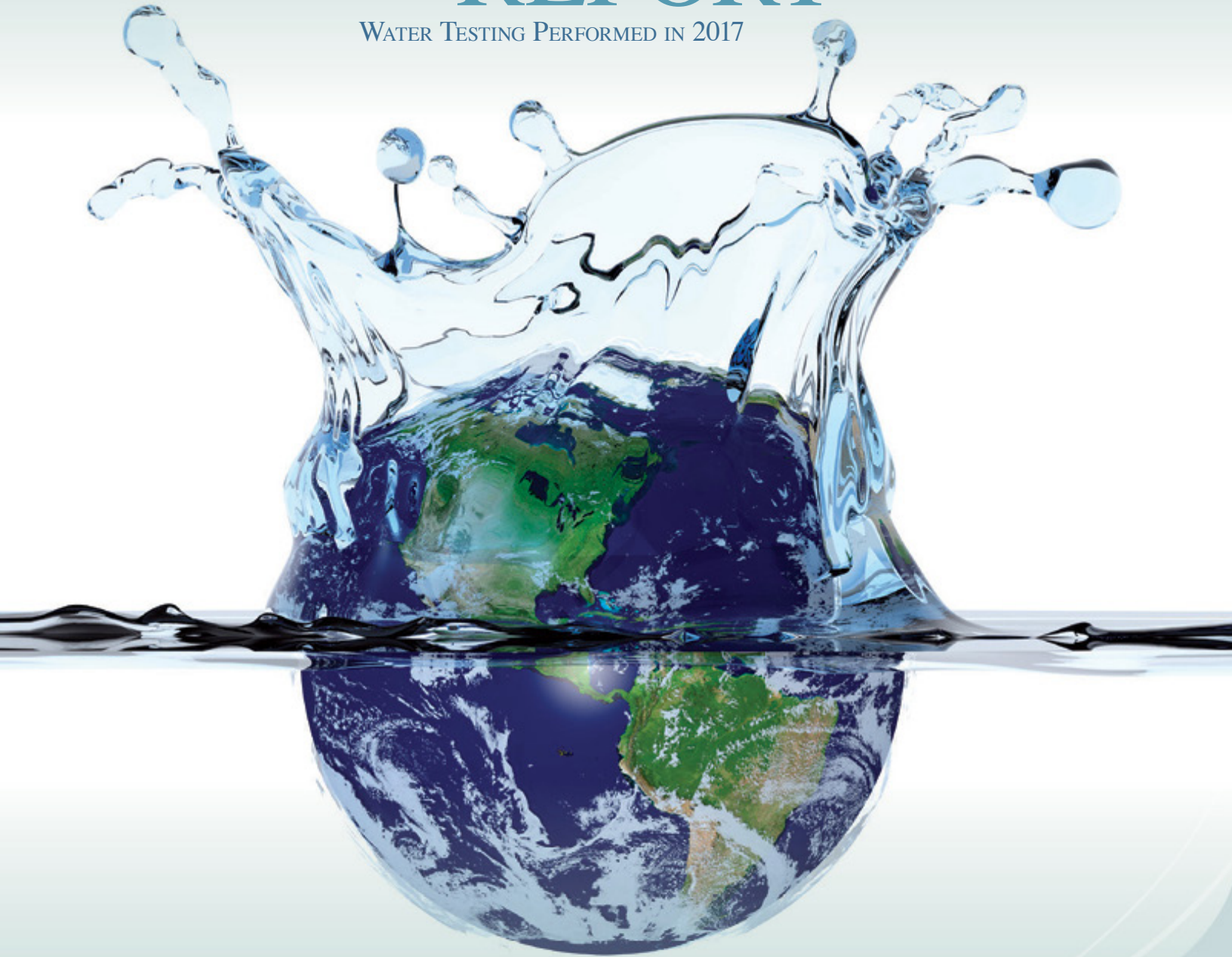


# ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017



*Presented By*  
**Raytown Water Co.**

## Quality First

Once again we are pleased to present our annual water quality report. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

## Source Water Assessment

In 1996, federal laws put into place the requirement for Source Water Assessment Programs all states. The Missouri Department of Natural Sources has identified potential sources of contamination in the areas surrounding the Missouri River, which is the water source for our Wholesaler, Kansas City. The full inventory of possible contamination sources can be found at the website <http://drinkingwater.missouri.edu/swip/swipmaps/pwssid.htm>, using PWSSID MO-1010415.

## Lead in Home 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. We are 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 [www.epa.gov/lead](http://www.epa.gov/lead).

## Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration 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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 may also come from gas stations, urban storm-water runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.



## Information on the Internet

The U.S. EPA (<https://goo.gl/TFAMKc>) and the Centers for Disease Control and Prevention ([www.cdc.gov](http://www.cdc.gov)) websites provide a substantial amount of information on many issues relating to water resources, water conservation, and public health. Also, the Missouri Department of Natural Resources has a website ([www.dnr.mo.gov](http://www.dnr.mo.gov)) that provides complete and current information on water issues in Missouri, including valuable information about our watershed.

## What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of fresh water that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef.

According to the U.S. EPA, the average American uses over 180 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 8,000 cubic feet; twice the global per capita average. With water use increasing six-fold in the past century, our demands for fresh water are rapidly outstripping what the planet can replenish.

To check out your own water footprint, go to <http://goo.gl/QMoIXT>.

## Where Does My Water Come From?

The Raytown Water Company purchases water from Kansas City Water, which produces drinking water from the Missouri River and deep wells dug in the Missouri River Aquifer. Kansas City produces 240 million gallons of drinking water per day and supplied approximately 44 billion gallons annually. To learn more about our watershed on the Internet, go to the U.S. EPA's Surf Your Watershed at [www.epa.gov/surf](http://www.epa.gov/surf).

Water treatment is a complex, time-consuming process.

## Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments such as iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels, and an acceptable taste and smell.

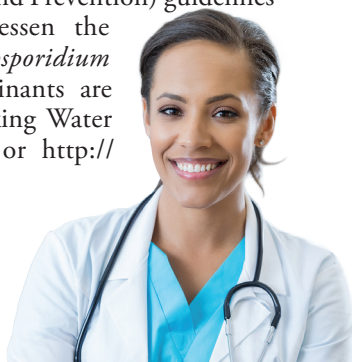
During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use, and avoid using hot water to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

## Important Health Information

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health-care provider.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



## QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Neal Clevenger, President/General Manager, at (816) 356-0333 x107, or visit our website, [www.raytownwater.net](http://www.raytownwater.net).



## BY THE NUMBERS

The number of gallons of water produced daily by public water systems in the United States.

**34**  
BILLION

**1**  
MILLION

The number of miles of drinking water distribution mains in the United States.

The amount of money spent annually on maintaining the public water infrastructure in the United States.

**135**  
BILLION

**300**  
MILLION

The number of Americans who receive water from a public water system.

The age in years of the world's oldest water, found in a mine at a depth of nearly two miles.

**2**  
BILLION

## How Long Can I Store Drinking Water?

The disinfectant in drinking water will eventually dissipate, even in a closed container. If that container housed bacteria prior to filling up with the tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

## Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected between January 1 and December 31, 2017. Remember that detecting a substance does not necessarily mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. The State recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

Note that although *E. coli* was detected, the water system is not in violation of the *E. coli* MCL. Sample was retaken and tested and had a negative E.coli result.

REGULATED SUBSTANCES									
				The Raytown Water Company		Kansas City Water Dept.-Reseller			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Atrazine (ppb)	2017	3	3	NA	NA	1.59	0–1.59	No	Runoff from herbicide used on row crops
Barium (ppm)	2017	2	2	NA	NA	0.019	0.009–0.019	No	Discharge of drilling wastes and discharge from metal refineries and erosion of natural deposits
Chromium (ppb)	2017	100	100	2.34	0–2.34	5 <sup>1</sup>	4–5 <sup>1</sup>	No	Discharge from steel and pulp mills
Cyanide (ppb)	2017	200	200	NA	NA	30	0–30	No	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Fluoride (ppm)	2016	4	4	NA	NA	0.98 <sup>1</sup>	0.334–0.98 <sup>1</sup>	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA]–Stage 1 (ppb)	2017	60	NA	18	12.8–16.1	24	11.9–35.1	No	By-product of drinking water disinfection
Haloacetic Acids [HAA]–Stage 2 (ppb)	2017	60	NA	19	12.4–16.3	NA	NA	No	By-product of drinking water disinfection
Nitrate (ppm)	2017	10	10	NA	NA	5.54	0.106–5.54	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	2017	50	50	NA	NA	2.85	1.03–2.85	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
TTHMs [Total Trihalomethanes]–Stage 1 (ppb)	2017	80	NA	10	6.18–10.4	12 <sup>2</sup>	4.7–13.6 <sup>2</sup>	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	2017	80	NA	10	5.84–10.2	NA	NA	No	By-product of drinking water disinfection
Tap Water Samples Collected for Lead and Copper Analyses from Sample Sites throughout the Community									
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE		
Copper (ppm)	2016	1.3	1.3	0.00438	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits		
Lead (ppb)	2016	15	0	0	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits		

## UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	The Raytown Water Company		Kansas City Water Dept.-Reseller	
		AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH
Alkalinity, Total (ppm)	2017	NA	NA	250	17–250
Boron, Total (ppm)	2017	NA	NA	0.053	0.041–0.053
Bromide (ppm)	2017	NA	NA	1.09	0–1.09
Calcium (ppm)	2017	NA	NA	43.3	33.2–43.3
Chloride (ppm)	2017	NA	NA	48.5	12.1–48.5
Chromium, Hex (ppb)	2013	2.5	2–2.5	2.7	2.2–2.7
Color (Units)	2017	NA	NA	10	1–10
Iron (ppm)	2017	NA	NA	0.006	0.004–0.006
Lasso (ppb)	2017	NA	NA	0.93	0–0.93
Magnesium (ppm)	2017	NA	NA	8.07	4.3–8.07
Metolachlor (ppb)	2017	NA	NA	0.67	0–0.67
Molybdenum, Total (ppb)	2014	2.78	0.00–2.78	3 <sup>1</sup>	3–3 <sup>1</sup>
Odor (TON)	2017	NA	NA	6	1–6
pH (Units)	2017	NA	NA	10.4	6.34–10.4
Potassium (ppm)	2017	NA	NA	7.18	5.77–7.18
Phenols (ppm)	2017	NA	NA	0.066	0–0.066
Silica (ppm)	2017	NA	NA	4.79	3.12–4.79
Sodium (ppm)	2017	NA	NA	61.4	46.1–61.4
Strontium (ppb)	2014	202	0.00–202	234 <sup>1</sup>	195–234 <sup>1</sup>
Sulfate (ppm)	2017	NA	NA	232	92.2–232
TDS (ppm)	2017	NA	NA	590	38–590
Testosterone (ppm)	2013	NA	NA	0.0014	0–0.0014
Total Chlorine (ppm)	2017	NA	NA	2.71	0.2–2.71
Vanadium, Total (ppb)	2014	1.55	0–1.55	2 <sup>1</sup>	0–2 <sup>1</sup>
Zinc (ppm)	2017	NA	NA	0.005	0.003–0.005

<sup>1</sup> Sampled in 2017.

<sup>2</sup> Sampled in 2016.

## Definitions

**µS/cm (microsiemens per centimeter):** A unit expressing the amount of electrical conductivity of a solution.

**AL (Action Level):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**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.

**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.

**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.

**MRDLG (Maximum Residual Disinfectant 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.

**NA:** Not applicable.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**TON (Threshold Odor Number):** A measure of odor in water.

**SMCL (Secondary Maximum Contaminant Level):** SMCLs are established to regulate the aesthetics of drinking water like appearance, taste and odor.