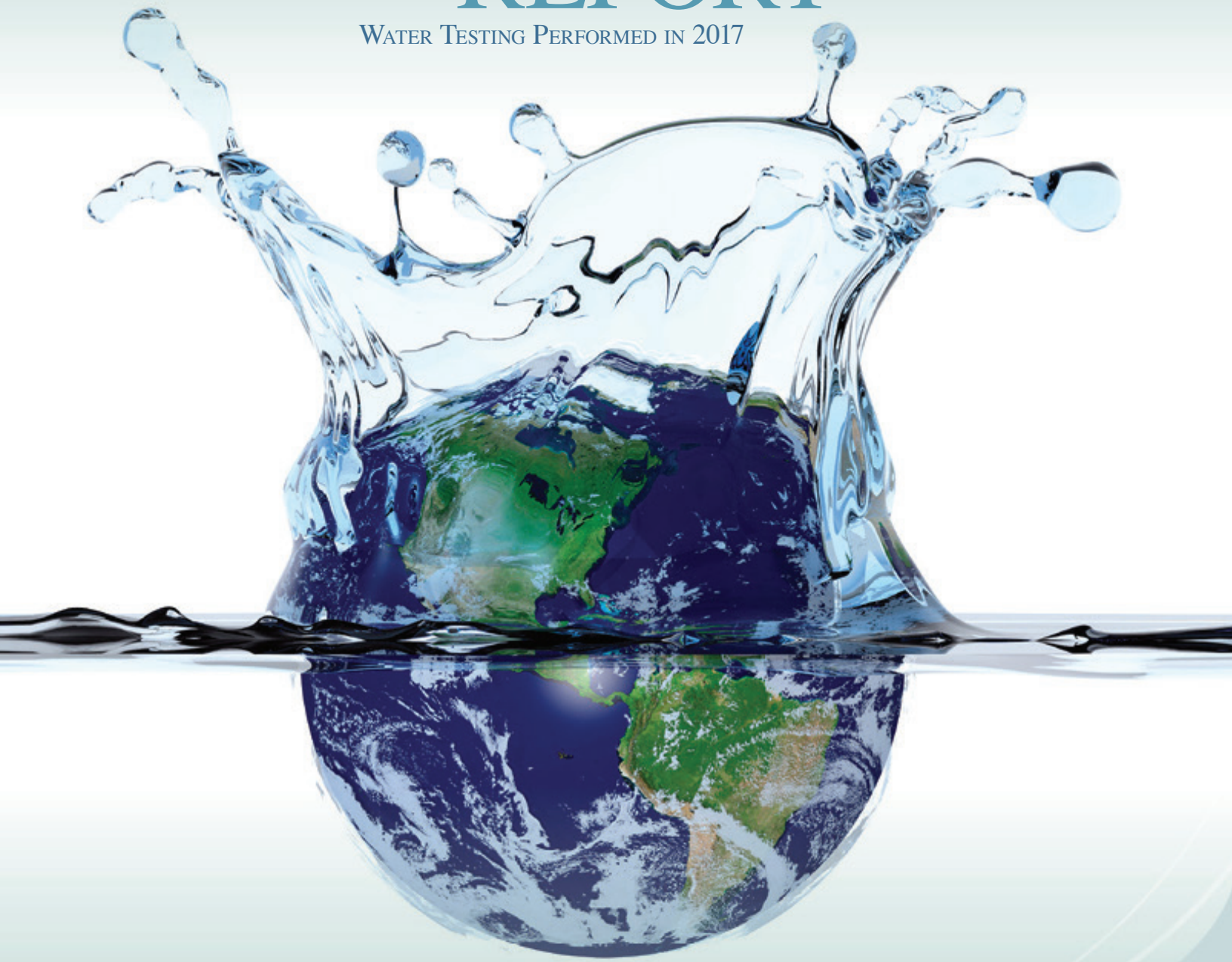
ANNUAL WATER QUALITY REPORT

Water Testing Performed in 2017



Presented By

Jackson County
Public Water
Supply District No. 2

PWS ID#: MO1024276

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.

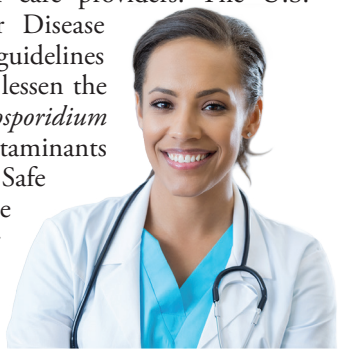
We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

Community Participation

You are invited to participate in our public meetings and voice your concerns about your drinking water. We meet the second Wednesday of each month, beginning at 5 p.m. at the Water District Office, 6945 Blue Ridge Boulevard, Raytown, Missouri 64133.

Important Health Information

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.



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.

Source Water Assessment

A Source Water Assessment Plan (SWAP) is now available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area, and a determination of the water supply's susceptibility to contamination by the identified potential sources.

If you would like to review the Source Water Assessment Plan, please feel free to contact our office during regular office hours. You can also contact Independence Water and Kansas City Water for information on their own assessments.

> "Water treatment is a complex, time-consuming process."

Where Does My Water Come From?

Public Water Supply District #2 customers are fortunate because we enjoy an abundant water supply from two sources. The first is Kansas City Water, which draws surface water from the Missouri River and from deep wells in the Missouri Aquifer. Our second water source is Independence Water, which draws water from wells located in the Missouri River Alluvial Aquifer. Combined, we provide roughly 420 million gallons of clean drinking water every year.

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.

Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Water treatment is a complex, time-consuming process. Because tap water is highly regulated by state and federal laws, water treatment plant and system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified. Our licensed water professionals have a basic understanding of a wide range of subjects, including mathematics, biology, chemistry, and physics. Some of the tasks they complete on a regular basis include:

- Operating and maintaining equipment to purify and clarify water;
- Monitoring and inspecting machinery, meters, gauges, and operating conditions;
- Conducting tests and inspections on water and evaluating the results;
- Maintaining optimal water chemistry;
- Applying data to formulas that determine treatment requirements, flow levels, and concentration levels;
- Documenting and reporting test results and system operations to regulatory agencies; and
- Serving our community through customer support, education, and outreach.

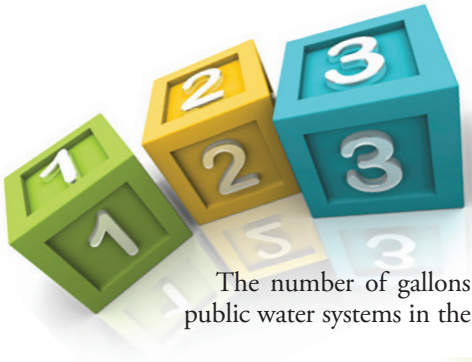
So, the next time you turn on your faucet, think of the skilled professionals who stand behind each drop.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Public Water Supply District #2 of Jackson County, MO, Patrick Ertz, District Manager, at (816) 353-5550.

Radon

Radon is a radioactive gas that you cannot see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will, in most cases, be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. You should pursue radon removal for your home if the level of radon in your air is 4 pCi/L or higher. There are simple ways to fix a radon problem that are not too costly. For additional information, call your state radon program or call U.S. EPA's Radon Hotline at (800) SOS-RADON.



BY THE NUMBERS

The number of gallons of water produced daily by public water systems in the U.S. **34 BILLION**

1 MILLION The number of miles of drinking water distribution mains in the U.S.

The amount of money spent annually on maintaining the public water infrastructure in the U.S. **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**

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.

REGULATED SUBSTANCES

				Independence Water		Kansas City Water		Public Water Supply District #2 of Jackson County MO			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2017	15	0	2.43	2.43–2.43	NA	NA	NA	NA	No	Erosion of natural deposits
Atrazine (ppb)	2017	3	3	NA	NA	0.23	ND–1.59	NA	NA	No	Runoff from herbicide used on row crops
Barium (ppm)	2017	2	2	0.047	0.047–0.047	0.012	0.005–0.019	NA	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/Photon Emitters[1] (pCi/L)	2017	50	0	7.8	7.8–7.8	NA	NA	NA	NA	No	Decay of natural and man-made deposits
Chloramines (ppm)	2017	[4]	[4]	2.14	1.23–2.46	2.3	2.04–2.44	NA	NA	No	Water additive used to control microbes
Chromium (ppb)	2017	100	100	0.98	0.98–0.98	4	3–5	NA	NA	No	Discharge from steel and pulp mills; Erosion of natural deposits
Combined Radium (pCi/L)	2017	5	0	0.038	0.038–0.038	NA	NA	NA	NA	No	Erosion of natural deposits
Fluoride (ppm)	2017	4	4	0.2	0.2–0.2	0.73	0.42–1.36	NA	NA	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories
HAA5 [Haloacetic Acids] (ppb)	2017	60	0	NA	NA	NA	NA	6 (DBPDUAL-01) 14 (DBPDUAL-02)	0–12.6 (DBPDUAL-01) 0–19.6 (DBPDUAL-02)	No	By-product of drinking water disinfection
Nitrate (ppm)	2017	10	10	0.405	0.17–0.64	1.97	ND–5.54	NA	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Radon 222 (pCi/L)	2017	300	0	45.7	45.7–45.7	NA	NA	NA	NA	No	Erosion of natural deposits
Selenium (ppb)	2017	50	50	0.49	0.49–0.49	3.0	1.5–3.4	NA	NA	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
TTHMs [Total Trihalomethanes] (ppb)	2017	80	0	3	2.71–3.28	NA	NA	7 (DBPDUAL-01) 10 (DBPDUAL-02)	2.1–7.3 (DBPDUAL-01) 4.36–9.58 (DBPDUAL-02)	No	By-product of drinking water disinfection
Total Organic Carbon (ppm)	2017	TT	NA	1.8	1.8–1.8	NA	NA	NA	NA	No	Naturally present in the environment
Uranium (ppb)	2017	30	0	0.36	0.36–0.36	NA	NA	NA	NA	No	Erosion of natural deposits

SECONDARY SUBSTANCES - INDEPENDENCE WATER

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	0.00402	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 CONTAMINANT MONITORING RULE - PART 3 (UCMR3)

		Independence Water		Public water Supply District #2 of Jackson County MO	
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH
Chromium-6 (ppb)	2013	1	0.71–1	3	0.73–3
Molybdenum (ppb)	2013	3.49	2.9–3.49	3.35[2]	3.35–3.35[2]
Strontium (ppb)	2013	198	193–198	199[2]	199–199[2]
Vanadium (ppb)	2013	1.65	1.54–1.65	1.47[2]	1.47–1.47[2]

[1] The MCL for beta particles is 4 mrem/year. U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

Definitions

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

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

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.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

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).

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

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