



2017 Annual

Water Quality Report

Brunswick

PWS ID: M02010109



MISSOURI
AMERICAN WATER

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

A Message from the Missouri American Water President

To Our Valued Customers:

Missouri is blessed with great water. From the confluence of the nation’s two largest rivers, to numerous smaller rivers, streams and creeks, to underground aquifers, we are lucky to have access to some of the best water resources in the United States and even the world.

Our Annual Water Quality Report serves as a description of the source and quality of your drinking water. It outlines and describes your water in detail, both before and after treatment. It is meant to answer the often-asked question, “What is in our water?”

I’m proud of Missouri American Water. Our surface water plants have won multiple Director’s Awards from the American Water Works Association, including a 15-year Director’s Award in 2017 for our four treatment plants in St. Louis County and our Joplin treatment plant. Our groundwater systems also maintain outstanding water quality.

Our nation and state face an ongoing need for investment in water infrastructure. At Missouri American Water, we continue to prioritize water treatment as we make investments in our water system. Only the highest-quality, cleanest, safest water is acceptable.

I hope you’ll take a few minutes and read the following report. It provides important information about your drinking water, its quality, and the testing we’ve conducted. We’re proud to show you the excellent quality of our water.



Cheryl Norton
President

What is a Water Quality Report?

To comply with state and U.S. Environmental Protection Agency (USEPA) regulations, Missouri American Water issues a report annually describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect drinking water sources. We conduct tests for hundreds of contaminants. This report provides an overview of the most recent water quality data available. It includes details about where your water comes from and what it contains.

If you have any questions about this report or your drinking water, please call our Customer Service Center at (toll-free) (866) 430-0820.



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WE CARE ABOUT WATER. IT’S WHAT WE DO.®

About Missouri American Water

Missouri American Water, a subsidiary of American Water (NYSE: AWK), is the largest investor-owned water utility in the state, providing high-quality and reliable water and/or wastewater services to approximately 1.5 million people.

With a history dating back to 1886, American Water is the largest and most geographically diverse U.S. publicly traded water and wastewater utility company. The company employs more than 6,900 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 46 states and Ontario, Canada. American Water provides safe, clean, affordable and reliable water services to our customers to make sure we keep their lives flowing. For more information, visit amwater.com and follow American Water on Twitter, Facebook and LinkedIn.

How to Contact Us

For more information regarding this report or any of the other services provided by Missouri American Water, please call our Customer Service Center at (toll-free) (866) 430-0820, or you may visit us at www.missouriamwater.com.

Source Water Information

Missouri American Water supplies quality drinking water to customers in the City of Brunswick and surrounding area. All of the water treated at the Brunswick plant is groundwater drawn from alluvium wells bordering the Grand River. More information on your source water is available at <http://drinkingwater.missouri.edu/swip/swipmaps/pwssid.htm>. To access the information for your water system you will need the State-assigned identification code (PWSID), which is printed at the top of this report.

Source Water Protection Program

As the first recipient of the Missouri Rural Water Association Source Water Protection Award, Missouri American Water's Brunswick District is an excellent example of the company's commitment to the protection of water resources through proactive programs. This award-winning program has also been endorsed and recognized by the Missouri Department of Natural Resources and the Environmental Protection Agency Region VII Office.


Protecting our Water Quality at the Source

We can all help protect the quality of water coming from our faucets by first protecting the quality of water in our rivers.

We all live in a watershed – an area of land that drains to a waterway. When it rains or snows, water travels across the ground on its journey to a river or stream. Along the way, it picks up any pollutants that may be found on lawns, streets and farmland.


Working together we can minimize these pollutants and protect our rivers, starting with six simple steps.

- Recycle – don't litter.
- Remember that storm inlets drain to rivers – don't pour oil or chemicals in the street.
- Plant native plants. They support wildlife, help preserve our natural diversity and require no fertilizer or herbicides.
- Use lawn chemicals sparingly and follow directions.
- Plant a rain garden to capture runoff from rainwater.
- Join a local stream clean-up team.



There's a lot more to your water bill than just water.

When you turn on the tap, it's easy to see what your water bill buys. What's not as easy to see is what it takes to bring that water to your home. The miles of pipeline hidden below the ground. The facilities that draw water from the source. The plant where it's treated and tested. The scientists, engineers, and maintenance crews working around the clock to make sure that water is always there when you need it. Your water payments are helping to build a better tomorrow by supporting needed improvements that will keep water flowing for all of us—today and well into the future. All for about a penny a gallon.

 **WE CARE ABOUT WATER. IT'S WHAT WE DO. FIND OUT WHY YOU SHOULD, TOO, at amwater.com.**

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Water Information Sources

Missouri American Water

www.missouriamwater.com

Missouri Department of Natural Resources

www.dnr.mo.gov

United States Environmental Protection Agency

www.epa.gov/safewater

Safe Drinking Water Hotline: (800) 426-4791

Centers for Disease Control and Prevention

www.cdc.gov

American Water Works Association

www.drinktap.org

Water Quality Association

www.wqa.org

National Library of Medicine/National Institute of Health

www.medlineplus.gov/drinkingwater.html

Substances Expected to be in Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater 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.

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.

Contaminants 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, and wildlife.

Inorganic Contaminants, such as salts and metals, which can be naturally-occurring or may 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, urban stormwater runoff, and residential uses.

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.

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

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

Special Health Information

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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline (800) 426-4791.

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. Missouri American Water 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>.

To ensure that tap water is of high quality, U.S. Environmental Protection Agency prescribes regulations limiting the amount of certain substances 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.



How to Read the Tables

Missouri American Water conducts extensive monitoring to ensure that your water meets all water quality standards. The most recent results of our monitoring are reported in the following tables. Certain substances are monitored less than once per year because the levels do not change frequently. For help with interpreting these tables, see the “Definitions of Terms” section.

Starting with a **Substance**, read across. **Year Sampled** is the most recent test year. **MCL** shows the highest level of substance (contaminant) allowed. **MCLG** is the goal level for that substance (this may be lower than what is allowed). **Results** represents the measured amount (less is better). **Range** tells the highest and lowest amounts measured. A **Yes** under **Compliance Achieved** means the amount of the substance met government requirements. **Typical Source** tells where the substance usually originates.

Unregulated substances are measured, but maximum contaminant levels have not been established by the government.

Definitions of Terms

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 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 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 contamination.

NA: Not applicable

ND: Not detected

pCi/L (picocuries per liter): Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).

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.

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

Water Quality Statement

We are pleased to report that during the past year, the water delivered to your home or business complied with all state and federal drinking water requirements. For your information, we have compiled tables showing the most recent water quality data available. Although all of the substances listed below are under the Maximum Contaminant Level (MCL) set by the USEPA, we feel it is important that you know exactly what was detected and how much of the substance was present in the water. For additional information concerning our results, please contact our customer service department at (toll-free) (866) 430-0820. Monitoring is also done under the USEPA Unregulated Contaminant Monitoring Rule (UCMR). Data is available on the [USEPA's web site](#).

There are many unforeseen and unpredictable factors that may introduce contaminants into our source water. The Missouri Department of Natural Resources routinely monitors all public water supplies to ensure public health is protected. Source Water Assessments have been assembled by the Missouri Department of Natural Resources to evaluate the susceptibility of contamination to our drinking water sources. For more information about these assessments call the Missouri Department of Natural Resources at (800) 361-4827.



Water Quality Results

Regulated Substances (Water Leaving the Treatment Facility)

Substance (units)	Year Sampled	MCL	MCLG	Results	Range Low-High	Compliance Achieved	Typical Source
Barium (ppm)	2017	2	2	0.2	0.2	Yes	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2017	TT	NA	0.8	0.8 – 2.2	Yes	Water additive used to control microbes
Fluoride (ppm)	2017	4	4	0.2	0.2	Yes	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	2017	10	10	0.3	0.3	Yes	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Bacterial Results (In the Distribution System)

Substance (units)	Year Sampled	MCL	MCLG	Highest Monthly Number of Positives	Compliance Achieved	Typical Source
E. coli	2017	1 Positive Sample	0	0	Yes	Naturally present in the environment

Regulated Substances (In the Distribution System)

Substance (units)	Year Sampled	MCL	MCLG	Results	Range Low-High	Compliance Achieved	Typical Source
Chlorine (ppm)	2017	MRDL = 4	MRDLG = 4	1.4	1.1 – 1.4	Yes	Water additive used to control microbes
HAA5 [Haloacetic acids] (ppb)	2017	60	NA	8.9	8.9	Yes	By-product of drinking water disinfection
TTHMs [Total trihalomethanes] (ppb)	2017	80	NA	35.0	35.0	Yes	By-product of drinking water disinfection

Lead and Copper Results (In the Distribution System)

Substance (units)	Year Sampled	Action Level	MCLG	Number of Samples	90th Percentile	Number of Samples Above Action Level	Typical Source
Copper (ppm)	2016	AL = 1.3	1.3	10	ND	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2016	AL = 15	0	10	ND	0	Corrosion of household plumbing systems; Erosion of natural deposits

Unregulated Substances (Water Leaving the Treatment Facility)

Substance (units)	Year Sampled	Results	Range Low-High	Typical Source
Aluminum (ppm)	2017	0.03	0.03	Naturally-occurring
Calcium (ppm)	2017	42	42	Naturally-occurring
Chloride (ppm)	2017	24	24	Naturally-occurring; Runoff from road de-icing, fertilizers, septic tanks, industrial uses
Magnesium (ppm)	2017	20	20	Naturally-occurring
Silica (ppm)	2017	24	24	Naturally-occurring
Sodium (ppm)	2017	13	13	Naturally-occurring
Strontium (ppb)	2017	100	100	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions
Sulfate (ppm)	2017	39	39	Naturally-occurring



Substances Tested For But Not Detected (Water Leaving the Treatment Facility)

1,1,1-Trichloroethane	Cadmium – Total	Molybdenum - Total
1,1,2-Trichloroethane	Carbaryl (Sevin)	Monobromoacetic Acid
1,1-Dichloroethene	Carbofuran	Monobromoacetic Acid
1,2,4-Trichlorobenzene	Carbon tetrachloride	Monochloroacetic Acid
1,2-Dibromo-3-chloropropane	Chlorobenzene	Monochloroacetic Acid
1,2-Dibromoethane (EDB)	Chromium - Total	Nickel – Total
1,2-Dichlorobenzene	cis-1,2-Dichloroethene	Nitrite - N
1,2-Dichloroethane	Cobalt - Total	Oxamyl (Vydate)
1,2-Dichloropropane	Copper - Total	o-Xylene
1,4-Dichlorobenzene	Cyanide, Total	Pentachlorophenol
1,4-Dioxane	Dacthal	PFBS
2,4,5-T	Dalapon	PFHpA
2,4,5-TP (Silvex)	Di(2-ethylhexyl)adipate	PFHxS
2,4'-D	Di(2-Ethylhexyl)phthalate	PFNA
2,4-DB	Dicamba	PFOA
3,5-Dichlorobenzoic acid	Dichloroprop	PFOS
3-Hydroxycarbofuran	Dinoseb	Picloram
Acifluorfen	Diquat	Potassium - Total
Alachlor	Endothall	Selenium – Total
Aldicarb	Endrin	Silver - Total
Aldicarb Sulfone	Ethyl Benzene	Simazine (Princep)
Aldicarb Sulfoxide	gamma-BHC (Lindane)	Styrene
Antimony - Total	Glyphosate	Technical Chlordane
Aroclor-1016	Heptachlor	Tetrachloroethene (PCE)
Aroclor-1221	Heptachlor epoxide	Thallium - Total
Aroclor-1232	Hexachlorobenzene	Toluene
Aroclor-1242	Hexachlorocyclopentadiene	Total PCBs
Aroclor-1248	Iron - Total	Toxaphene
Aroclor-1254	Lead - Total	trans-1,2-Dichloroethene
Aroclor-1260	m,p-Xylene	Trichloroacetic Acid
Arsenic - Total	Manganese - Total	Trichloroethene (TCE)
Atrazine (Aatrex)	Mercury - Total	Vanadium - Total
Bentazon	Methiocarb	Vinyl chloride
Benzene	Methomyl	Xylene (total)
Benzo(a)pyrene	Methoxychlor	Zinc – Total
Beryllium - Total	Methyl tert-Butyl ether (MTBE)	
Boron – Total	Methylene chloride	

