2015 Annual Water Quality Report

Joplin
PWS ID: MO5010413

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 American Water is proud to be your local water service provider, and I am pleased to share good news about the quality of your drinking water. Each year, we provide you with our Annual Water Quality Report -- a description of the source and the quality of your drinking water. Like so many years prior, we continue to supply water that meets or surpasses all state and federal water quality regulations.

Delivering water requires miles of pipeline, facilities that draw water from the source and water plants that test and treat the water that is delivered to homes and businesses. Our plant operators, water quality experts, engineers and maintenance crews work around the clock to make sure that water is there when you need it. Delivering high-quality, reliable water service also requires significant investment to upgrade aging facilities. Every year, we invest approximately $80 to $130 million in water and wastewater system improvements statewide.

We're proud to supply quality, reliable water service for about a penny per gallon – an exceptional value. Every day we deliver a key resource for public health, fire protection, the economy and overall quality of life. Our job is to ensure that quality water keeps flowing today, and well into the future.

We hope you agree that water is a great value and worth learning more about. This report provides information about the source and quality of your drinking water using the data from water quality testing conducted for your local water system from January through December 2015.

We appreciate the opportunity to serve you.

Cheryl D. Norton

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.

AT ABOUT A PENNY PER GALLON WATER IS A GREAT VALUE™

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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.

American Water is the largest and most geographically diverse publicly traded U.S. water and wastewater utility company. Marking its 130th anniversary this year, the company employs 6,700 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 47 states and Ontario, Canada. More information can be found by visiting www.amwater.com.

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.amwater.com/moaw.

Source Water Information

Missouri American Water supplies quality drinking water to residential, commercial and industrial customers in and around the City of Joplin. Missouri American Water treats a combination of surface water and groundwater. The primary source is Shoal Creek, which is supplemented by a system of deep wells. 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

In 2010, Missouri American Water worked with a team of community stakeholders to develop a Source Water Protection Plan. The plan identifies ways to reduce the risk of potential contamination to the ground and surface water resources the Joplin community relies upon for its drinking water supply. As providers of high quality, affordable water, our responsibility is to not only protect one of our most precious resources but to improve the environment.

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.

Missouri American Water supports river clean-ups, watershed protection programs and environmental events across Missouri. In 2015, Missouri American Water's community outreach program deployed about 374 employee volunteers to more than 40 community events across the state.

Partnership for Safe Drinking Water Program

Our water treatment plant is a member of the Partnership for Safe Water. The Partnership is a national voluntary initiative developed by the Environmental Protection Agency (USEPA) and other water organizations to recognize water suppliers that consistently achieve water treatment standards that surpass USEPA regulatory requirements. Fewer than 1% of water utilities in the U.S. have achieved this recognition.

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.nlm.nih.gov/medlineplus

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.

Our Water Research Efforts

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Although *Cryptosporidium* can be removed through commonly-used filtration methods, USEPA issued a new rule in January 2006 that requires systems with higher *Cryptosporidium* levels in their source water to provide additional treatment. Missouri American Water's Joplin district monitored for *Cryptosporidium*, and found elevated levels in the raw water due to poor source water conditions following significant rainfall events. To address these potential levels of *Cryptosporidium*, we installed ultraviolet disinfection in 2008, four years ahead of the EPA deadline.

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.

ppt (parts per trillion): One part substance per trillion parts water, or nanograms 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
Alpha emitters (pCi/L)	2015	15	0	7.7	ND – 7.7	Yes	Erosion of natural deposits
Barium (ppm)	2015	2	2	0.05	ND – 0.1	Yes	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chloramine (ppm)	2015	TT	NA	2.1	2.1 – 3.8	Yes	Water additive used to control microbes
Combined radium (pCi/L)	2015	5	0	1.3	ND – 1.3	Yes	Erosion of natural deposits
Fluoride (ppm)	2015	4	4	0.6	ND – 0.7	Yes	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	2015	10	10	0.3	ND – 3.0	Yes	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Organic Carbon	2015	TT	NA	1.1	1.1 – 1.3	Yes	Naturally present in the environment

Turbidity - A Measure of the Clarity of the Water (at the Treatment Facility)

Substance (units)	Year Sampled	MCL	MCLG	Highest Single Measurement	Compliance Achieved	Typical Source
Turbidity (NTU)	2015	TT	NA	0.14	Yes	Soil runoff

Bacterial Results (In the Distribution System)

Substance (units)	Year Sampled	MCL	MCLG	Highest Percentage Detected	Compliance Achieved	Typical Source
Total Coliform Bacteria	2015	5% Positive Samples	0	3%	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
Chloramine (ppm)	2015	MRDL = 4	MRDLG = 4	2.9	2.3 – 2.9	Yes	Water additive used to control microbes
HAA5 [Haloacetic acids] (ppb)	2015	60	NA	20.0	10.3 – 28.3	Yes	By-product of drinking water disinfection
TTHMs [Total trihalomethanes] (ppb)	2015	80	NA	21.0	21.6 – 27.6	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)	2014	AL = 1.3	1.3	30	0.05	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2014	AL = 15	0	30	3	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)	2015	0.2	0.01 – 0.29	Naturally-occurring; Industrial waste
Calcium (ppm)	2015	46	34 – 58	Naturally-occurring
Chlorate (ppm)	2015	0.08	0.06 – 0.11	Agricultural defoliant or desiccant; Used in production of chlorine dioxide
Chloride (ppm)	2015	15.0	1.4 – 28.5	Naturally-occurring; Runoff from road de-icing, fertilizers, septic tanks, industrial uses
Magnesium (ppm)	2015	10	4 – 16	Naturally-occurring
N-nitrosodimethylamine (ppt)	2009	10.7	2.8 – 19.5	Nitrosamines can form as intermediates and by-products in chemical synthesis and manufacture of rubber, leather, and plastics; can form spontaneously by reaction of precursor amines with nitrosating agents (nitrate and related compounds), or by action of nitrate-reducing bacteria. Foods such as bacon and malt beverages can contain nitrosamines; there is also evidence that they form in the upper GI tract.
Sodium (ppm)	2015	11.0	2.1 – 19.8	Naturally-occurring
Sulfate (ppm)	2015	15.7	12.8 – 18.5	Naturally-occurring; Mining or industrial waste

Unregulated Substances (In the Distribution System)

Substance (units)	Year Sampled	Results	Range Low-High	Typical Source
Chromium – 6 (ppb)	2013	0.2	0.2 – 0.3	Naturally-occurring element; used in making steel and other alloys; chromium-3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood preservation
Chromium – Total (ppb)	2013	0.5	0.3 – 0.9	Discharge from steel and pulp mills; Erosion of natural deposits
Strontium (ppb)	2013	60	59 – 64	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions
Vanadium (ppb)	2013	0.7	0.4 – 1.1	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst

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

1,1,1-Trichloroethane
1,1,2-Trichloroethane
1,1-Dichloroethene
1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloropropane
1,4-Dichlorobenzene
2,4,5-T
2,4,5-TP (Silvex)
2,4-D
2,4-DB
3,5-Dichlorobenzoic acid
3-Hydroxycarbofuran
Acifluorfen
Alachlor
Aldicarb
Aldicarb Sulfone
Aldicarb Sulfoxide
Antimony – Total
Aroclor-1016
Aroclor-1221
Aroclor-1232
Aroclor-1242
Aroclor-1248
Aroclor-1254
Aroclor-1260
Arsenic – Total
Atrazine
Bentazon
Benzo(a)pyrene
Beryllium – Total
Bromate
Cadmium – Total
Carbaryl (Sevin)
Carbofuran
Carbon tetrachloride
Chlorobenzene
Chromium – Total
cis-1,2-Dichloroethene
Cobalt – Total
Copper – Total
Cyanide – Total
Dacthal
Dalapon
Di(2-ethylhexyl)adipate
Di(2-Ethylhexyl)phthalate
Dicamba
Dichloroprop
Dinoseb
Diquat
Endothall
Endrin
Ethyl Benzene
gamma-BHC (Lindane)
Glyphosate
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorocyclopentadiene
Iron – Total
Lead – Total
m,p-Xylene
Manganese – Total
Mercury – Total
Methiocarb
Methomyl
Methoxychlor
Methyl tert-Butyl ether (MTBE)
Methylene chloride
Molybdenum – Total
Nickel – Total
Nitrite – N
Oxamyl (Vydate)
o-Xylene
Pentachlorophenol
Perchlorate
Picloram
Potassium - Total
Selenium – Total
Silica – Total
Simazine (Princep)
Strontium - Total
Styrene
Technical Chlordane
Tetrachloroethene (PCE)
Thallium – Total
Toluene
Total PCBs
Toxaphene
trans-1,2-Dichloroethene
Trichloroethene (TCE)
Vanadium - Total
Vinyl Chloride
Xylene – Total
Zinc – Total