

# ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2018



***Presented By***  
**Jasper Municipal Water**

## Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2018. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available should you ever have any questions or concerns about your water.

## Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those 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 that 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 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 may also come from gas stations, urban stormwater 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.

## Testing for *Cryptosporidium*

*Cryptosporidium* is a microbial parasite found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Monitoring of source water indicates the presence of these organisms: Maximum level detected in our raw source water was 0.93 oocysts/L. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people are at greater risk of developing life-threatening illness. We encourage immunocompromised individuals to consult their doctors regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

## Water Main Flushing

**D**istribution 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 like iron and manganese. Although iron and manganese do not themselves 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 and 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 such times. 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.

## 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.

According to the Source Water Assessment Plan, our water system had a susceptibility rating of "medium." If you would like to review the Source Water Assessment Plan, please feel free to contact our office during regular office hours.

## Community Participation

**W**e want our customers to be informed about your water utility. You are invited to participate in our public forum and voice your concerns about your drinking water. The Jasper Water Utility is managed by the Jasper Utility Service Board, which meets at 7:00 p.m. on the third Monday of each month at City Hall.

## Where Does My Water Come From?

**I**n 2018, the sole source of the water treated and distributed by the Jasper Municipal Water Utility was surface water drawn from the Patoka River. The Patoka Reservoir serves as the primary emergency source of water, with the Beaver Creek Reservoir serving as a secondary emergency source. The Beaver Creek Reservoir, a City-owned lake, 205 acres in size, holding approximately 905 million gallons of usable storage, is located seven miles east of the City. If water is needed from Beaver Creek Reservoir, it is released into Beaver Creek, which flows into the Patoka River before reaching the City.



Julie Loehr is our Middle Patoka River Watershed Coordinator. Funded by a Section 319 Grant, Loehr coordinates efforts among federal, state, and local entities and landowners in the watershed. Dedicated to educate and inform, Loehr helps with implementation of best management practices to ensure that water is conserved and all our waterways are kept as clean as possible. If you would like more information on water quality, would like to learn what you can do personally to conserve or protect water, or would like to get involved and volunteer in projects aimed at water quality, contact Loehr at (812) 779-7924 or julia.loehr@in.nacdn.net.



## 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 we 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 at (800) 426-4791 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## Water Treatment Process

The treatment process consists of a series of steps. First, raw water is drawn from the Patoka River and potassium permanganate is added, which allows for oxidation of the iron and manganese levels that are present in the water. The water then goes to a rapid mixing trough where we add blended polymer flocculent, hydrated lime (corrosion inhibitor, pH adjustment), fluoride (dental health), and activated carbon (taste and odor control). The addition of these substances cause small particles to adhere to one another (called floc), making them heavy enough to settle into a basin from which sediment is removed. Chlorine is then added for disinfection. At this point, the water is filtered through layers of fine coal and silicate sand. As smaller, suspended particles are removed, turbidity disappears and clear water emerges. As an additional barrier for bacteria and viruses, the filtered water is then sent through a UV disinfection process before being discharged into a clear well reservoir.

Chlorine is added again as a precaution against any bacteria that may be present within the distribution system. (We carefully monitor the amount of chlorine, adding the lowest quantity necessary to protect the safety of your water without compromising taste.) Finally, the water is pumped into the distribution system and into your home or business.

## 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 Mr. Tim Doersam, Water Department Manager, or Darin Kemp, Water Filtration Foreman, at (812) 482-5252.

## Test Results

We are pleased to report that your drinking water meets or exceeds all federal and state requirements. Here, we show only those substances that were detected in our water. (A complete list of all our analytical results is available upon request.) Remember that detecting a substance does not 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 often 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 4th stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling 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 the EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminant Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

### REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Alpha Emitters</b> (pCi/L)	2017	15	0	<3	<3	No	Erosion of natural deposits
<b>Barium</b> (ppm)	2018	2	2	0.0310	0.0310–0.0310	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
<b>Beta/Photon Emitters</b> <sup>1</sup> (pCi/L)	2017	50	0	3.7	3.7	No	Decay of natural and man-made deposits
<b>Chlorine</b> (ppm)	2018	[4]	[4]	1.0	0.22–2.14	No	Water additive used to control microbes
<b>Combined Radium</b> (pCi/L)	2017	5	0	< 1.0	< 1.0	No	Erosion of natural deposits
<b>Fluoride</b> (ppm)	2018	4	4	0.8	0.64–1.16	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
<b>Haloacetic Acids [HAAs]</b> (ppb)	2018	60	NA	25	11.8–38.0	No	By-product of drinking water disinfection
<b>Nickel</b> (ppm)	2018	0.1	NA	0.0012	0.0–0.0012	No	Erosion of natural deposits
<b>Nitrate</b> (ppm)	2018	10	10	1.6	1.6–1.6	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>PCBs [Polychlorinated biphenyls]</b> (ppt)	2018	500	0	140	0.0–140	No	Runoff from landfills; Discharge of waste chemicals
<b>TTHMs [Total Trihalomethanes]</b> (ppb)	2018	80	NA	49	21.9–68.3	No	By-product of drinking water disinfection
<b>Total Organic Carbon</b> <sup>2</sup> (removal ratio)	2018	TT	NA	1.80	0.70–2.83	No	Naturally present in the environment
<b>Turbidity</b> <sup>3</sup> (NTU)	2018	TT	NA	0.22	0.04–0.22	No	Soil runoff
<b>Turbidity</b> (Lowest monthly percent of samples meeting limit)	2018	TT = 95% of samples meet the limit	NA	100	NA	No	Soil runoff
<b>Uranium</b> (ppb)	2017	30	0	< 1	< 1	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
<b>Copper</b> (ppm)	2017	1.3	1.3	0.102	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
<b>Lead</b> (ppb)	2017	15	0	0.2	1/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

## UNREGULATED CONTAMINANT MONITORING RULE - PART 4 (UCMR4)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
<b>Bromochloroacetic Acid</b> (ppb)	2018	1.41	0.60–1.94	By-product of drinking water disinfection
<b>Bromodichloroacetic Acid</b> (ppb)	2018	1.20	0.87–1.50	By-product of drinking water disinfection
<b>Dichloroacetic Acid</b> (ppb)	2018	6.52	2.79–10.4	By-product of drinking water disinfection
<b>HAA5</b> (ppb)	2018	13.6	10.4–17.4	By-product of drinking water disinfection
<b>HAA6Br</b> (ppb)	2018	2.60	1.58–2.96	By-product of drinking water disinfection
<b>HAA9</b> (ppb)	2018	16.2	12.0–20.3	By-product of drinking water disinfection
<b>Manganese</b> (ppb)	2018	3.73	2.97–4.49	Erosion of natural deposits
<b>Total Organic Carbon [TOC]</b> (ppm)	2018	2.7	2.6–2.8	Decay of natural and man-made deposits
<b>Trichloroacetic Acid</b> (ppb)	2018	7.10	5.24–7.64	By-product of drinking water disinfection

## UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
<b>Sodium</b> (ppm)	2018	14.4	0.0–14.4	Erosion of natural deposits

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

<sup>2</sup>The value reported under Amount Detected for TOC is the lowest ratio between the percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than 1 indicates that the water system is in compliance with TOC removal requirements. A value of less than 1 indicates a violation of the TOC removal requirements.

<sup>3</sup>Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

## Definitions

**90th %ile:** The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

**AL (Action Level):** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that 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

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**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).

**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.