Bryant Waterworks
2014 Annual Drinking Water Quality Report

We're pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our goal is to provide you with a safe and dependable supply of drinking water, and we want you to understand, and be involved in, the efforts we make to continually improve the water treatment process and protect our water resources.

Where Does Our Drinking Water Come From?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. We purchase treated surface water from Central Arkansas Water (CAW). Central Arkansas Water's supply is from two lakes: Lake Winona and Lake Maumelle. Both lakes can supply Jackson Reservoir, a regulating reservoir located in Little Rock. Water is delivered by pipeline to the Jack H. Wilson and Ozark Point water treatment plants. Both treatment facilities are located in Little Rock.

How Safe Is The Source Of Our Drinking Water?

The Arkansas Department of Health has completed a Source Water Vulnerability Assessment for Central Arkansas Water. The assessment summarizes the potential for contamination of our sources of drinking water and can be used as a basis for developing a source water protection plan. Based on the various criteria of the assessment, Central Arkansas Water has been determined to have a medium susceptibility to contamination. You may request a summary of the Source Water Vulnerability Assessment from our office.

What Contaminants Can Be In Our Drinking Water?

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, can pick up substances resulting from the presence of animals or from human activity. 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 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.

In order to assure tap water is safe to drink, EPA has regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Am I at Risk?

All 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 the water poses a health risk. However, 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 can be particularly at risk from small amounts of contamination. These people should seek advice about drinking water from their health care providers. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791. In addition, EPA/CDC guidelines on appropriate means to lessen the risk of infection by microbiological contaminants are also available from the Safe Drinking Water Hotline.

What is Cryptosporidium?

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. It lives and reproduces only with the host. In the environment, *Cryptosporidium* exists as a thick walled oocyst, containing four organisms. Monitoring by Central Arkansas Water in 2014 indicated no presence of these organisms in their Lake Maumelle, Lake Winona, or Jackson Reservoir water sources. It is important to know that although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life threatening illness. We encourage immuno-compromised individuals to consult their doctor 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.

Lead and Drinking Water

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 http://www.epa.gov/safewater/lead.

How Can I Learn More About Our Drinking Water?

If you have any questions about this report or concerning your water utility, please contact Monty Ledbetter, Public Works Director, at 501-943-0447. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the last Tuesday of each month at 6:00 PM at the City Hall Conference Room.

TEST RESULTS

We and Central Arkansas Water routinely monitor for constituents in your drinking water according to Federal and State laws. The test results table shows the results of our monitoring for the period of January 1st to December 31st, 2014. In the table you might find terms and abbreviations you are not familiar with. To help you better understand these terms we've provided the following definitions:

Action Level - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Maximum Contaminant Level (MCL) - 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.
Maximum Contaminant Level Goal (MCLG) – unenforceable public health 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.
Maximum Residual Disinfectant Level (MRDL) - 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.
Maximum Residual Disinfectant Level Goal (MRDLG) - 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
Nephelometric Turbidity Unit (NTU) – a unit of measurement for the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
Parts per billion (ppb) - a unit of measurement for detected levels of contaminants in drinking water. One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
Parts per million (ppm) – a unit of measurement for detected levels of contaminants in drinking water. One part per million corresponds to one minute in two years or a single penny in $10,000.
WTP – Water Treatment Plant

MICROBIOLOGICAL CONTAMINANTS

Contaminant	Violation Y/N	Level Detected	Unit	MCLG (Public Health Goal)	MCL (Allowable Level)	Major Sources in Drinking Water
Total Coliform Bacteria (Bryant Waterworks)	**Y**	**4 positive samples in July**	Present	0	**1 positive sample per month**	Naturally present in the environment
	N	1 positive sample in September				
Fecal Coliform & *Escherichia coli* (Bryant Waterworks)	N	1 Positive sample in July – no positive samples on re-sampling	Present	0	A routine sample and repeat sample are total Coliform positive, and one is also fecal Coliform or *E. coli* positive	Human and animal fecal waste

- **Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.**
- Fecal Coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.

TURBIDITY

Contaminant	Violation Y/N	Level Detected	Unit	MCLG (Public Health Goal)	MCL (Allowable Level)	Major Sources in Drinking Water
Turbidity (Central Ark. Water Ozark Point WTP)	N	Highest yearly sample result: 0.22	NTU	NA	Any measurement in excess of 1 NTU constitutes a violation	Soil runoff
		Lowest monthly % of samples meeting the turbidity limit: 100%				
Turbidity (Central Ark. Water Jack Wilson WTP)	N	Highest yearly sample result: 0.20	NTU	NA	A value less than 95% of samples meeting the limit of 0.3 NTU, constitutes a violation	
		Lowest monthly % of samples meeting the turbidity limit: 100%				

- Turbidity is a measurement of the cloudiness of water. Central Arkansas Water monitors it because it is a good indicator of the effectiveness of their filtration system.

INORGANIC CONTAMINANTS						
Contaminant	**Violation Y/N**	**Level Detected**	**Unit**	**MCLG** (Public Health Goal)	**MCL** (Allowable Level)	**Major Sources in Drinking Water**
Fluoride (Central Ark. Water – Ozark Point WTP)	N	Average: 0.70 Range: 0.54 – 0.91	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth
Fluoride (Central Ark. Water –Jack Wilson WTP)	N	Average: 0.66 Range: 0.56 – 0.87	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth

LEAD AND COPPER TAP MONITORING					
Contaminant	**Number of Sites over Action Level**	**90th Percentile Result**	**Unit**	**Action Level**	**Major Sources in Drinking Water**
Lead (Bryant Waterworks)	0	<0.003	ppm	0.015	Corrosion from household plumbing systems; erosion of natural deposits
Copper (Bryant Waterworks)	0	<0.20	ppm	1.3	

- We are currently on a reduced monitoring schedule and required to sample once every three years for lead and copper at the customers' taps. The results above are from our last monitoring period in 2014. Our next required monitoring period is in 2017.

TOTAL ORGANIC CARBON

- The percentage of Total Organic Carbon (TOC) removal was routinely monitored by Central Arkansas Water in 2014, and all TOC removal requirements set by USEPA were met. Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection by-products. These by-products include trihalomethanes (THMs) and haloacetic acids (HAAs).

REGULATED DISINFECTANTS						
Disinfectant	**Violation Y/N**	**Level Detected**	**Unit**	**MRDLG** (Public Health Goal)	**MRDL** (Allowable Level)	**Major Sources in Drinking Water**
Chlorine (Bryant Waterworks)	N	Average: 0.71 Range: 0.3 – **4.5**	ppm	4	**4**	Water additive used to control microbes

- While only the upper range of samples exceeded the allowable level, it should be stated that some people who use water containing chlorine well in excess of the MRDL, could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.

BY-PRODUCTS OF DRINKING WATER DISINFECTION					
Contaminant	**Violation Y/N**	**Level Detected**	**Unit**	**MCLG** (Public Health Goal)	**MCL** (Allowable Level)
HAA5 [Haloacetic Acids] (Bryant Waterworks)	N	Highest Running 12 Month Average: 21 Range: 7.5 – 27.9	ppb	0	60
TTHM [Total Trihalomethanes] (Bryant Waterworks)	N	Highest Running 12 Month Average: 67 Range: 32.4 – **92.6**	ppb	NA	**80**
Chlorite (Central Arkansas Water)	N	Average: 200 Range: 20 - 605	ppb	800	1000

- **While only the upper end of the ranges of the TTHMs exceeded their MCLs, it should be noted that some people who drink water containing Trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.**

UNREGULATED CONTAMINANTS				
Contaminant (Both WTPs)	**Level Detected**	**Unit**	**MCLG** (Public Health Goal)	**Major Sources in Drinking Water**
Chloroform (Central Arkansas Water)	Average: 18.15 Range: 6.89 – 29.4	ppb	70	By-product of drinking water disinfection
Bromodichloromethane (Central Arkansas Water)	Average: 4.21 Range: 1.20 – 7.22	ppb	0	
Dibromochloromethane (Central Arkansas Water)	1.96	ppb	60	

- Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. MCLs (Maximum Contaminant Levels) and MCLGs (Maximum Contaminant Level Goals) have not been established for all unregulated contaminants.

VIOLATIONS – Bryant Waterworks			
TYPE: Bacteriological Sampling	**FROM:**	**TO:**	**CORRECTIVE ACTION:**
Exceeded the Maximum Contaminant Level (MCL) for Total Coliform bacteria	7/1/2014	7/31/2014	Adjusted the level of disinfectant and resumed bacteriological monitoring as required by state and federal regulations

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