Barling 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 water from Fort Smith. Fort Smith Water Utilities has two independent sources. The primary water source is the Frog Bayou Watershed. Water from this watershed is stored at Lake Fort Smith and is treated at Fort Smith's Lake Fort Smith Treatment Plant. The other source is the Lee Creek Watershed. Water from this watershed is stored in Lee Creek Reservoir and is treated at Fort Smith's Lee Creek Treatment Plant.

How Safe Is The Source Of Our Drinking Water?

The Arkansas Department of Health has completed a Source Water Vulnerability Assessment for Fort Smith Water Utilities. 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, our water sources have been determined to have a low to 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 Ft. Smith Water Utilities in 2014 indicated the presence of one of these organisms in their Lee Creek Reservoir water source. 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 Steve Core, Director of Public Works, at 479-452-1550 ext. 215. 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 second and fourth Tuesday of each month at 6:30 PM at the Barling City Hall.

TEST RESULTS

We and Fort Smith Water Utilities 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.

MICROBIOLOGICAL CONTAMINANTS						
Contaminant	**Violation Y/N**	**Level Detected**	**Unit**	**MCLG** (Public Health Goal)	**MCL** (Allowable Level)	**Major Sources in Drinking Water**
Total Coliform Bacteria (Barling Water)	N	1 positive sample in April	Present	0	1 positive sample per month	Naturally present in the environment

TURBIDITY

Contaminant	Violation Y/N	Level Detected	Unit	MCLG (Public Health Goal)	MCL (Allowable Level)	Major Sources in Drinking Water
Turbidity (Ft Smith Water Utilities – both WTPs)	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%			A value less than 95% of samples meeting the limit of 0.3 NTU, constitutes a violation	

- Turbidity is a measurement of the cloudiness of water. Fort Smith 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
Nitrate [as Nitrogen] (Ft Smith Water Utilities – both WTPs)	N	0.32	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

LEAD AND COPPER TAP MONITORING

Contaminant	Number of Sites over Action Level	90th Percentile Result	Unit	Action Level	Major Sources in Drinking Water
Lead (Barling Water)	0	<0.003	ppm	0.015	Corrosion from household plumbing systems; erosion of natural deposits
Copper (Barling Water)	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 in 2014 by the City of Fort Smith, and all TOC removal requirements set by USEPA were met. 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 (Barling Water)	N	Average: 1.13 Range: 1.0 – 1.3	ppm	4	4	Water additive used to control microbes

BY-PRODUCTS OF DRINKING WATER DISINFECTION

Contaminant	Violation Y/N	Level Detected	Unit	MCLG (Public Health Goal)	MCL (Allowable Level)
HAA5 [Haloacetic Acids] (Barling Water)	N	Highest 12 month Locational Average: 11 Range: 8.6 – 13.8	ppb	0	60
TTHM [Total Trihalomethanes] (Barling Water)	N	Highest 12 month Locational Average: 25 Range: 19.7 – 28.9	ppb	NA	80

UNREGULATED CONTAMINANTS

Contaminant	Level Detected	Unit	MCLG (Public Health Goal)	Major Sources in Drinking Water
Chloroform (Ft Smith Water Utilities – both WTPs)	Average: 19.52 Range: 7.33 – 31.7	ppb	70	By-products of drinking water disinfection
Bromodichloromethane (Ft Smith Water Utilities – both WTPs)	Average: 5.11 Range: 4.34 – 5.87	ppb	0	
Dibromochloromethane (Ft Smith Water Utilities – both WTPs)	Average: 1.59 Range: 1.31 – 1.87	ppb	60	
Strontium (UCMR3) (Ft Smith Water Utilities – both WTPs)	Average: 25.28 Range: 23.7 – 26.7	ppb	Undetermined	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 (UCMR3) (Ft Smith Water Utilities – both WTPs)	Average: 0.33 Range: 0.20 – 0.46	ppb	Undetermined	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst
Chromium-6 (UCMR3) (Ft Smith Water Utilities – both WTPs)	Average: 0.112 Range: 0.049 – 0.262	ppb	Undetermined	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

- 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.