Safe Water

- from the source all the way to the tap!

Fort Smith Utility

2013

Water Quality Report

Fort Smith Utility Department
3900 Kelley Highway - Fort Smith, AR 72904
Phone: 479-784-2231
Director of Utilities - Steve Parke
Superintendent of Water Operations - Steve Floyd
Environmental Manager - Lance McAvoy

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 of your water, what it means and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. 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. We are committed to ensuring the quality of your water.

This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

Spanish: Este document contiene información importante acerca del agua potable que usted consume. Si no puede leer este informe, por favor pida a alguien que le ayude a enternderlo.

Vietnamese: Chi tiết này thật quan trọng. Xin nhờ người dịch cho quý vị.

Laotian: ລາຍງານນີ້ມີຂໍ້ມູນສຳຄັນກ່ຽວກັບນ້ຳປະປາຂອງທ່ານ. ຈົ່ງໃຫ້ຄົນອື່ນແປຄວາມໃຫ້ທ່ານ, ຫລືໃຫ້ປຶກສາກັບຄົນໃດຄົນໜຶ່ງທີ່ເຂົ້າໃຈເລື່ອງ.

The United States Congress has directed the Environmental Protection Agency (EPA) to require public water systems to report annually on the quality of drinking water they provide. The City of Fort Smith Utilities supports this regulation and is providing this report to all customers in our service area. This report is about your drinking water sources and quality; regulations that protect your health; programs that protect the high quality of our supply sources; and the treatment processes that assure our drinking water meets or surpasses all federal and state standards. Congress passed the Safe Drinking Water Act in 1974, delegating to the U.S. Environmental Protection Agency (EPA) the authority to regulate public water systems to protect public health. In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations established limits for contaminants in bottled water.

Where Does Our Drinking Water Come From?

Fort Smith has two independent water sources. Our primary water source is the Frog Bayou watershed, a 74 square mile forested valley located in the Boston Mountains, 2 miles north of Mountainburg, AR. The Frog Bayou supply comes from rain (43-56" of rain per year), and stream runoff flowing down the slopes of the watershed. The water is stored in the recently expanded **Lake Fort Smith** (approximately 1,400 surface acres) and is treated at Fort Smith's Lake Fort Smith Water Treatment Plant. Fort Smith's other water supply is the Lee Creek watershed, a 439 square mile area located in both the States of Arkansas and Oklahoma. The Lee Creek supply also comes from rain (43-56" of rain per year), and stream runoff flowing down the slopes of the watershed. The water is stored in the **Lee Creek Reservoir** (approximately 634 surface acres) and is treated at Fort Smith's Lee Creek Water Treatment Plant.

How Safe Is The Source Of Our Drinking Water?

The Arkansas Department of Health completed a Source Water Vulnerability Assessment for Fort Smith Water Utilities. The assessment summarizes the potential for contamination of our source(s) 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.

Fresh clean drinking water is yours to use whenever you need it. But not to waste. It's too valuable. Remember that a little effort and a little common sense will make a big difference.

Use Water . . . And Use it Wisely

Lake Fort Smith Water Transmission Line Construction Underway

In September 2011, the City of Fort Smith began the design of the initial phase for the construction of a new 30 plus mile long 48-inch water transmission line from the Lake Fort Smith Water Treatment Plant near Mountainburg to south Fort Smith. This year the first 6.5 miles of the project is beginning and is estimated to cost between $13,200,000 and $16,200,000.

The overall project, planned for completion in 2025, is to increase the amount of water supplied to all of the region's water users and to retire an older 27-inch water transmission line from service. This project will increase the deliverable volume of water from 34 million gallons per day (MGD) to 70 MGD. Several things went into the selection of the route of the new transmission main.

Environmental Issues – Permits from the Army Corps of Engineers are required for the project because of the multiple crossings of Frog Bayou and the Arkansas River. These "Waters of the United States" required environmental surveys for wetlands determination and endangered species.

Cultural Sensitive Sites – The route the new transmission line follows must avoid culturally sensitive sites. This is done to keep the cost down by removing the need to mitigate the impact on those sites.

Maintenance and Access – The final factors were maintenance, access, easement acquisition, and property disruption. Using existing easements and following the current transmission line path for the majority of the way to Fort Smith was determined to be the best, however, some deviation from the entire existing route was required due to hydraulic problems.

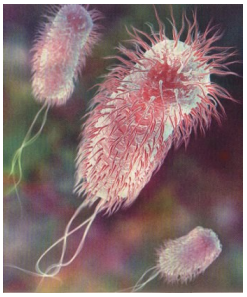
The Lake Fort Smith Water Transmission line improvements will aid Fort Smith Utility in providing safe, reliable drinking water to the region for years to come. For more information, e-mail us at **UtilityInfo@FortSmithAR.gov.**

Why are Contaminants in My Water?

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 and radioactive material, and 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 organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

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

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. Additional 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.

Terms and abbreviations used in this report

Finished water: Water leaving the treatment plant and entering the distribution system.

Unregulated contaminants: The EPA has not established a maximum contaminant level for every contaminant that might be found in drinking water. If no value is entered for the maximum contaminant level goal, the contaminant is not currently regulated or is not considered to pose a health risk.

Minimum detection limits: Many contaminants cannot be detected by current testing procedures. That can mean either there is no contaminant present, or that it is present at levels too low for modern laboratory equipment to detect.

Concentration Levels: Most measurements are reported in concentrations of milligrams (1/1000 of a gram) per liter of water (mg/L). This is the same as one part per million. If a different measurement is used, the table will note that.

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 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.

Secondary Maximum Contaminant Level (SMCL) - These are non-mandatory water quality standards established as aesthetic guidelines.

Treatment technique (TT)- A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Action level (AL)-The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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.

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.

Key to Water Quality Tables

AL	Action Level
TT	Treatment Technique
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
ppm	parts per million, or milligrams per liter, (equivalent to 1 cent in $10,000 or 1 minute in 2 years)
ppb	parts per billion, or micrograms per liter, (equivalent to 1 cent in $10,000,000 or 1 second in 32 years)
NTU	Nephelometric Turbidity Unit
MRDL	Maximum Residual Disinfectant Level
MRDLG	Maximum Residual Disinfection Level Goal
WTP	Water Treatment Plant

The data represented in the following tables are from the monitoring period of January 1, 2013 through December 31, 2013 unless otherwise noted.

Water Quality Data Tables

Microbiological Contaminants

Contaminant	Violation (Y/N)	Level Detected	Unit	MCLG (Public Health Goal)	MCL (Allowable Level)	Major Sources in Drinking Water
Total Coliform Bacteria	N	Highest monthly percentage of positive samples: 2.2%	Present	0	Presence of Coliform bacteria in 5% of the monthly samples	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* (Both WTPs)	N	Highest yearly sample result: 0.20 Lowest monthly % of samples meeting the turbidity limit: 100.0	NTU	NA	Any measurement in excess of 1 NTU constitutes a violation A value less than 95% of samples meeting the limit of 0.3 NTU constitutes a violation	Soil runoff

Note: * Turbidity is a measurement of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

Contaminant	Violation (Y/N)	Level Detected	Unit	MCLG (Public Health Goal)	MCL (Allowable Level)	Major Sources in Drinking Water
Nitrate [as Nitrogen] (both WTPs)	N	Average: 0.22 Range: 0 - 0.43	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Lead and Copper Tap Monitoring

Contaminant/(Site)	Number of sites over Action Level	90% percentile result	Unit	Action Level	Major Sources in Drinking Water
Lead (Pb) (Distribution System)	0	<0.003	ppm	0.015	Corrosion of household plumbing systems; erosion of natural deposits
Copper (Cu) (Distribution System)	0	<0.20	ppm	1.3	Corrosion of household plumbing systems; erosion of natural deposits

Fort Smith is on a reduced monitoring schedule for sampling for lead and copper at the customers taps. The results above are from our last monitoring period in 2013. Our next scheduled monitoring period is the year 2016.

Total Organic Carbon

The percentage of Total Organic Carbon (TOC) removal was routinely monitored in 2013 at both the Mountainburg and Lee Creek WTPs and all TOC removal requirements set by USEPA were met for both of our sources. 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).

By-Products of Drinking Water Disinfection

Contaminant	Violation Y/N	Level Detected	Unit	MCLG (Public Health Goal)	MCL (Allowable Level)
HAA5 [Haloacetic Acids]	N	Highest running 12 month average: 14 Range: 7.9 - 16.4	ppb	0	60
TTHM [Total Trihalomethanes]	N	Highest running 12 month average: 33 Range: 19.4 - 49.9	ppb	NA	80

Water Quality Data Tables

Regulated Disinfectants						
Disinfectant	Violation Y/N	Level Detected	Unit	MRDLG (Public Health Goal)	MRDL (Allowable Level)	Major Sources in Drinking Water
Chlorine	N	Average: 1.22 Range: 1 -1.65	ppm	4	4	Water additive used to control microbes.

Unregulated Contaminants				
Contaminant	Level Detected	Unit	MCLG (Public Health Goal)	Major Sources in Drinking Water
Chloroform (Both WTPs)	Average: 14.2 Range: 10.4 - 17.9	ppb	70	By-products of drinking water disinfection
Bromodichloromethane (Both WTPs)	Average: 6.24 Range: 4.22 - 8.25	ppb	0	
Dibromochloromethane (Both WTPs)	Average 2.12 Range: 1.01 - 3.23	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.

Additional Water Quality Parameters Monitored by ADH/City of Fort Smith			
Analytes	Unit	Level Detected in Lake Fort Smith Finished Water	Level Detected in Lee Creek Finished Water
Alkalinity (Total)	ppm as CaCO3	27	31
Calcium	ppm as CaCO3	7.58	10.5
Carbonate Hardness	ppm as CaCO3	26	31
Hardness (Total)	ppm as CaCO3	26	34
Magnesium	ppm	1.66	1.79
Potassium	ppm	1.13	1.75
Sodium	ppm	6.72	2.58
Sediment	ppm	<0.5	<0.5

Secondary Standards - Standards Recommended by U.S. EPA and ADH				
Inorganic Chemicals	Unit	Secondary MCL	Level Detected in Lake Fort Smith Finished Water	Level Detected in Lee Creek Finished Water
Aluminum	ppm	0.05 - 0.2	<0.05	<0.05
Chloride	ppm	250	3.2	7.9
Fluoride	ppm	4	<0.2	<0.2
Iron	ppm	0.3	<0.05	<0.05
Manganese	ppm	0.05	<0.001	0.006
Sulfate	ppm	250	12.2	4.0
Zinc	ppm	NA	<0.05	<0.05

We make every effort to assure that the water supplied by Fort Smith's public water system complies with federal and state drinking water standards.

Lead and Drinking Water

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's 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. Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced.

The City of Fort Smith 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.

Do I Need to Take Special Precautions?

Important Health Information for Immuno-compromised persons. 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 infections.

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

Regulations for Public Water Systems

The federal Safe Drinking Water Act required that water quality standards be developed and enforced. Congress delegated enforcement of these drinking water standards to the EPA. The EPA develops rules that govern how the provisions of the Act will be carried out. The Arkansas Department of Health is the primacy agency that enforces drinking water regulations in Arkansas. In order to assure tap water is safe to drink, EPA prescribes 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.

In 1986 Congress reauthorized the Act and amended it. The 1986 amendments to the Safe Drinking Water Act and the Rules developed to implement it have influenced the operation of Fort Smith's water system. Among the changes were the initial regulation of 83 drinking water contaminants, and a requirement to regulate an additional 25 contaminants every three years.

Primary standards protect public health. Primary standards include maximum contaminant levels, maximum contaminant level goals, action levels and treatment techniques. These standards are established by the EPA to protect human health.

Secondary standards relate to aesthetics. These guidelines are designed to assure good aesthetic quality of water. Secondary standards apply to contaminants that affect the taste, odor or color of water, stain sinks or bathtubs, or interfere with treatment processes. Secondary contaminants are not considered to present a risk to human health at the SMCL.

Is Our Water System Meeting the Rules that Govern Our Operations?

As you can see in the Water Quality tables, our system had no violations during 2013. We're proud that your drinking water meets or exceeds all Federal and State requirements. We at the Fort Smith Water Utility work around the clock to provide top quality water to every tap.

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Fort Smith Utility Department
3900 Kelley Hwy.
Fort Smith, AR 72904

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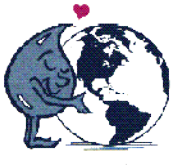

Water, Use It Wisely!

How Can I Get Involved?

We want our valued customers to be informed about their water utility.

If you have any questions about this report or to learn more about your water utility, contact the Fort Smith Utility Department at 479-784-2231 or visit our web site at **www.fortsmithwater.org**.

You can attend meetings of the City's Board of Directors held on the first and third Tuesday of each month (contact the City Clerk's office at 479-784-2208 for meeting times and locations). Agendas and meeting minutes may be viewed on the city's web site at www.fortsmithar.gov, Click on "Departments and Services" then "Board of Directors".

If you have additional questions regarding the quality of drinking water, you can contact someone on the following list.

Agency	Telephone Number
Environmental Protection Agency (EPA) Safe Drinking Water Hotline	(800) 426-4791
Arkansas Department of Health Division of Engineering	(501) 661-2623