

2016
*Water
Quality
Report*



FPU

Fayetteville Public Utilities®

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Fayetteville Public Utilities

Water Quality Report for 2016

Is my drinking water safe?

Yes, Fayetteville Public Utilities' (FPU) water meets all of the Environmental Protection Agency's (EPA) health standards. We have conducted numerous tests for over 75 contaminants that may be in drinking water. As you will see in the charts on the next two pages, we only detected 18 of these contaminants. We found all of these contaminants at safe levels.

What is the source of my water?

Your main source of water is surface water that comes from the Elk River. We also have an emergency secondary source that is ground water under the direct influence of surface water called the Teal Hollow Springs. Our goal is to protect our water from contaminants and we are working with the State to determine the vulnerability of our water source to **potential** contamination. The Tennessee Department of Environment and Conservation (TDEC) has prepared a Source Water Assessment Program (SWAP) Report for the untreated water sources serving this water system. The SWAP Report assesses the susceptibility of untreated water sources to **potential** contamination. To ensure safe drinking water, all public water systems treat and routinely test their water. Water sources have been rated as reasonably susceptible, moderately susceptible or slightly susceptible based on geologic factors and human activities in the vicinity of the water source. The Elk River source was rated as slightly susceptible to potential contamination and Teal Hollow is moderately susceptible.

An explanation of Tennessee's Source Water Assessment Program, the Source Water Assessment summaries, susceptibility scorings and the overall TDEC report to EPA can be viewed online at <http://tn.gov/environment/article/wr-wq-source-water-assessment>, or you may contact FPU to obtain copies of specific assessments and Wellhead Protection Plans.

Why are there contaminants in my water?

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. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800-426-4791.

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

For more information about your drinking water, please call David Posey at 931-433-1522, extension 322.

How can I get involved?

The FPU Board of Directors meets on the fourth Wednesday of each month at 8:00 a.m. at the main FPU office. Meetings are open to the public and customers are welcome to address questions and comments to the board.

Is our water system meeting other rules that govern our operations?

The State and EPA require FPU to test and report on our water on a regular basis to insure its safety. We have met all of these requirements. Results of unregulated contaminant analysis are available upon request. We want you to know that we obey all the rules.

Other information

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, in some cases, 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:

- 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 storm water 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 storm water 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 storm water 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 ensure that tap water is safe to drink, EPA and TDEC prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. FPU's water treatment processes are designed to reduce any such substances to levels well below any health concern. The Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Do I need to take special precautions?

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 had 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 not only their drinking water but food preparation, personal hygiene, and precautions in handling infants and pets from their health care providers. EPA and the Centers of Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline at 800-426-4791.

Lead in 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. FPU 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>.

Water system security

Following the events of September 2001, we realize that our customers are concerned about the security of their drinking water. We urge the public to report any suspicious activities at any utility facilities, including treatment plants, pumping stations, tanks, fire hydrants, etc. to FPU at 931-433-1522.

Water Quality Data

What does this chart mean?

- MCLG - Maximum Contaminant Level Goal or 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.
- MCL - Maximum Contaminant Level or 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. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.
- MRDL - Maximum Residual Disinfectant Level or the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the control of microbial contaminants.
- AL - Action Level or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
- Parts per million (ppm) or Milligrams per liter (mg/l) - explained as a relation to time and money as one part per million corresponds to 1 minute in 2 years or a single penny in \$10,000.
- Parts per billion (ppb) or Micrograms per liter - explained as a relation to time and money as one part per billion corresponds to 1 minute in 2,000 years, or a single penny in \$10,000,000.
- Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- RTCR - Revised Total Coliform Rule. This rule went into effect on April 1, 2016 and replaces the MCL for total coliform with a Treatment Technique Trigger for a system assessment.
- TT - Treatment Technique or a required process intended to reduce the level of a contaminant in drinking water.

ELK RIVER

Contaminant	Violation Yes/No	Level Detected	Range of Detections	Date of Sample	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	No	0	0	January 1– March 31 2016		0	>1 Positive Sample/Month	Naturally present in the environment
Total Coliform Bacteria (RTCR)	No	1	0 - 1	April 1 – December 31 2016		0	TT Trigger	Naturally present in the environment
E-coli Bacteria ¹	No	0	0	2016		0	See footnote 1	Human or animal wastes
Turbidity ²	No	0.56	0.02 - 0.56	Daily	NTU	N/A	TT	Soil runoff
Barium	No	0.016		2014	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chlorine	No	1.37 avg.	0.26 - 2.66	Daily	ppm	4	MRDL=4	Water additive used to control microbes
Chlorine Dioxide	No	236	0 - 236	Daily	ppb	800	MRDL=800	Water additive used to control microbes.
Chlorite	No	0.816	0 - 0.816	Daily	ppm	0.8	1.0	By-product of drinking water chlorination
Copper	No	90 th % = 0.0392		2016	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead ³	No	90 th % = 1.49		2016	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Fluoride	No	0.56 avg.	0.52-0.65	Quarterly Samples	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Contaminant	Violation Yes/No	Level Detected	Range of Detections	Date of Sample	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Nitrate (as Nitrogen)	No	1.10		2016	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks or sewage; erosion of natural deposits
Sodium	No	2.91		2016	ppm	N/A	N/A	Erosion of natural deposits; used in water treatment
TTHM (Total Trihalomethanes)	No	55 avg.	19 - 78	Quarterly	ppb	N/A	80	By-product of drinking water chlorination
Haloacetic Acids (HAA5) ⁴	No	50 avg.	25 - 78	Quarterly	ppb	N/A	60	By-product of drinking water disinfection.
Total Organic Carbon ⁵	No	1.67 avg.	1.59 - 1.77	Quarterly	ppm	N/A	TT	Naturally present in the environment.
Vanadium ⁶	No	0.2 avg.	<0.2 - 0.4	Feb/May 2015	ppb	N/A	N/A	Naturally occurs in many different minerals and in fossil fuel deposits
Strontium ⁶	No	107 avg.	78 - 120	Feb/May 2015	ppb	N/A	N/A	Naturally present in the environment
Hexavalent Chromium ⁶	No	0.0875 avg.	0.07 - 0.10	Feb/May 2015	ppb	N/A	N/A	Discharge from steel and pulp mills; erosion of natural deposits
Chlorate ⁶	No	163 avg.	140 - 180	Feb/May 2015	ppb	N/A	N/A	By-product of drinking water disinfection
Elk River Water Cryptosporidium ⁷	No	0.21 avg.	0 - 1.155	Monthly	Oocysts/L	N/A	N/A	Human or animal wastes

¹ * E. coli: A system is in compliance with the MCL for E. coli for samples unless any of the conditions identified in parts one through four, listed below, occur.

1. The system has an E. coli-positive repeat sample following a total coliform positive routine sample.
2. The system has a total coliform positive repeat sample following an E. coli-positive routine sample.
3. The system fails to take all required repeat samples following an E. coli-positive routine sample.
4. The system fails to test for E. coli when any repeat sample tests positive for total coliform.

² * We met the treatment technique requirement for turbidity with 98.8% of our monthly samples below the turbidity limit of 0.30 NTU. Turbidity is a measurement of the cloudiness of the water. We monitor turbidity because it is a good indicator of the effectiveness of our filtration system.

³ * During the most recent round of Lead and Copper testing of 60 households, none of the homes we sampled contained concentrations exceeding the action level.

⁴ * HAA [Haloacetic Acids]. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of developing cancer.

⁵ * We met the Treatment Technique requirement for Total Organic Carbon in 2016.

⁶ * These contaminants were monitored under the Unregulated Contaminant Monitoring Rule (UCMR). The UCMR program was developed in coordination with the Contaminant Candidate List (CCL). The CCL is a list of contaminants that are not regulated by the National Primary Drinking Water Regulations, are known or anticipated to occur at public water systems, and may warrant regulation under the Safe Drinking Water Act. Data collected through UCMR is stored in the National Contaminant Occurrence Database to support analysis and review of contaminant occurrence, to guide the CCL selection process, and to support the Administrator's determination of whether to regulate a contaminant in the interest of protecting public health.

⁷ * We are required to monitor our source water monthly for Cryptosporidium as a part of the Long Term 2 Enhanced Surface Water Treatment Rule for 24 consecutive months beginning July 2016. Cryptosporidium is a microbial parasite which is found in surface water throughout the U.S. Although Cryptosporidium can be removed by filtration, the most commonly used filtration methods cannot guarantee 100% removal. Monitoring of our source water indicated the presence of Cryptosporidium in 3 out of 6 samples tested. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals are able to overcome the disease within a few weeks. However, immuno-compromised people have more difficulty and are at greater risk of developing severe, life-threatening illness. Immuno-compromised individuals are encouraged to consult a doctor regarding appropriate precautions to take to prevent infection. For more information on Cryptosporidium, contact the Safe Drinking Water Hotline at 800-426-4791.

FLUSHING MEDICATIONS CONTAMINATES WATER SUPPLY

Flushing unused or expired medicines can be harmful to your drinking water. Proper disposal of unused or expired medication helps protect you and the environment. Keep medications out of Tennessee's waterways by disposing of them in a permanent pharmaceutical take-back bin. There are nearly 100 take-back bins located across the state, including one at the Lincoln County Sheriff's Department. To find a different location in the surrounding area, please visit:

<https://www.tn.gov/environment/article/sp-unwanted-pharmaceuticals>.