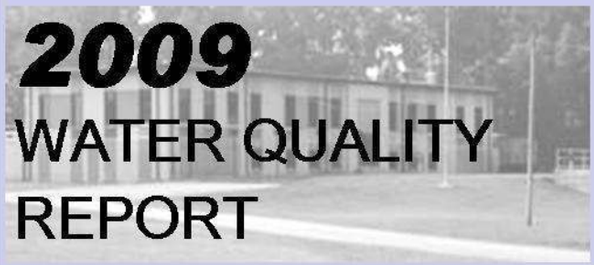

2009 WATER QUALITY REPORT

FPU Fayetteville Public Utilities

Electric • Water/Sewer • Natural Gas • Cable/Internet/Digital Phone

WHAT IS A WATER QUALITY REPORT?

The Safe Drinking Water Act of 1996, administered by the United States Environmental Protection Agency (EPA), requires all public water systems to report the analysis of their drinking water and source each year.

This report provides our customers and the Fayetteville community with the scientific data confirming the safety and wholesomeness of the water supplied by the Fayetteville Public Utilities Water Department. In this report, you will find tables of data listing different substances that are tested for in the drinking water that is supplied by the FPU Water Department.

This Water Quality Report also explains the process by which water is delivered to your home. We hope that this report will answer some of the questions that you may have about the quality of your tap water.

SOURCES OF DRINKING WATER FOR FPU CUSTOMERS

The sources of drinking water include lakes, reservoirs, ponds, streams, wells and in the FPU Water Department's case, the Elk River and Teal Hollow Springs. As water travels over the surface of the land or through the ground, it naturally dissolves certain mineral and radioactive materials and can pick up substances resulting from animal or human activities.

In order to insure that your tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain impurities in the water provided by the public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same level of protection to public health as water supplies. 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. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline at 1-800-426-4791.

IMPURITIES THAT MAY BE PRESENT IN SOURCE WATER

These are the most common impurities found in drinking water:

Biological Contaminant—these are viruses and bacteria that may come from sewer treatment plants, septic tanks, agricultural livestock operations or wildlife.
Inorganic Contaminant—these include salts and metals which occur naturally or result from industrial or domestic wastewater discharges, mining, farming, or oil and gas production.
Pesticides and Herbicides—these may occur from a variety of sources such as agriculture, storm water runoff or residential uses.
Organic Chemicals—these include synthetics and volatile organics which are the byproducts of industrial processes and petroleum production. These can also come from gas stations, urban storm runoff and septic systems.
Radioactive Materials—these materials occur naturally or can be the result of oil and gas production or mining activities.

**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, and some elderly and infants can be at risk of infections. These people should seek advice from their physician before drinking public water. The EPA and Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline, 1-800-426-4791.*

FAYETTEVILLE'S WATER IS QUALITY WATER

Fayetteville is fortunate to have two steady and relatively pure water supplies—the Elk River and 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 supplies. The Tennessee Department of Environment and Conservation (TDEC) has prepared a Source Water Assessment Program Report for the water supplies serving this system. This report assesses the susceptibility of public water supplies to *potential* contamination. Water sources have been rated as reasonably susceptible (high), moderately susceptible or slightly susceptible (low) based on geologic factors and human activities in the vicinity of the water source. Fayetteville's sources rated as follows:
Elk River (surface water source) - rated as low susceptibility to potential contamination
Teal Hollow Springs (ground water coming from Ordovician carbonate aquifier) - rated as moderately susceptible to potential contamination

An explanation of Tennessee's Source Water Assessment Program and related reports can be viewed online at www.state.tn.us/environment/dws/dwassess.php or you may contact the FPU Water Department at (931) 433-1522 to obtain copies of specific assessments.

THE LOCAL TREATMENT PROCESS

Water provided by FPU meets all chemical, radiological and bacteriological water quality standards established by the EPA under the Safe Drinking Water Act, as amended, and by TDEC under the Tennessee Safe Drinking Water Act of 1983, as amended. At Fayetteville's treatment plant, water from the river is first screened to remove large objects such as tree limbs. Chemicals known as coagulants are added to the water. These chemicals do not stay in the water; they cause contaminants like mud and algae to cling to them, forming larger particles. The water then slowly flows through settling tanks where these large particles are allowed to sink to the bottom and are removed mechanically. The water from these tanks is passed through filters made of gravel, sand and anthracite. Following the filtration, small amounts of chlorine and fluoride are added. Chlorine prevents bacteria from developing while fluoride helps prevent tooth decay. The water from the Teal Hollow Springs comes from underground springs, so it contains no large objects, mud or algae. Treatment of the spring water includes only filtration, chlorination and coagulation.

THE LOCAL WATER SUPPLY

The FPU Water Department has grown to serve 139.84 miles of water mains. FPU supplies drinking water to customers in Fayetteville and certain parts of Lincoln County. In addition to our own direct customers, we also sell water on a wholesale basis to Petersburg and the Lincoln County Utility District. Water is stored in five reservoirs and a clearwell at our treatment plant giving us a combined capacity of over four million gallons. On an average day, 2.1 million gallons of drinking water are pumped from the two water treatment plants. On high demand days, this has risen to as much as 3 million gallons in a day.

Water provided by FPU meets all federal and state drinking water standards.

Every day of operation, samples of river, settled and finished water are tested in FPU laboratories to insure the highest quality for our customers. In addition to the daily tests of water leaving the plants, samples are collected and analyzed monthly from approximately 20 points in the distribution system. Additional information about the quality of Fayetteville's drinking water can be obtained by calling David Posey at Fayetteville Public Utilities, (931) 433-1522, extension 322.

The reverse side presents the analytical results of regular water sampling during the period from Jan. 1 2009, through Dec. 31, 2009, and indicates the different characteristics that are monitored, the concentrations in which they were found, the maximum limits for each contaminant and the goal for each. The sampling is indicated for those parameters that do not require annual sampling.

KEY TO ABBREVIATIONS WITH DEFINITIONS

MCL-Maximum Contaminant Level. The highest level of a contaminant level that is allowed in drinking water. MCLs are set as close to the MCLGs 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.
Action Levels-The concentration of a contaminant, which if exceeded, triggers treatment or other requirements which a water system must follow. This rule, which may require the water system to treat water to reduce corrosion and provide public education, applies to lead and copper. (Fayetteville has never reached an action level for any contaminant.)
Primary Standards-These are established to protect public health and include maximum contaminant levels, maximum contaminant level goals, action levels and treatment techniques.
Secondary Standards-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.
Contaminant-Any mineral, chemical or organic matter that is suspended or dissolved in water including beneficial substances such as calcium.
T.T.-This is the Treatment Technique, the required process intended to reduce the level of a contaminant in drinking water.
NA-Does not apply.
ND-Not detected at the lowest detection level.
N/E-Not established.
BDL-Below detection level.
MRDL-Maximum residential disinfectant level.
MRDLG-Maximum residential disinfectant level goal.
NTU-Nephelometric Turbidity Units. Turbitdity is a measure of clarity of water. Turbidity in excess of 5 NTUs is just noticeable to the average person.

MEASUREMENTS

Number in the table concentration		Equivalent concentration	
1 ppm	1 part per million	1 mg/L	(milligram per liter)
1 ppb	1 part per billion	1 ug/L	(microgram per liter)
1 ppt	1 part per trillion	1 ng/L	(nanogram per liter)

the

ORGANIC CHEMICALS-These materials include petroleum-based compounds, pesticides, herbicides, and other synthetic chemicals. Testing has shown that none of the regulated organics have ever been detected in water from either the Fayetteville or Teal Hollow Springs water treatment plant of the unregulated VOCS, for which no MCLs have been established. Only trace concentrations have been detected as shown in the following tables.

Unregulated Pesticides

Carbaryl	3-Hydroxycarbofuran
Methomyl	Dieldrin
Aldicarb sulfoxide	Propachlor
Aldicarb sulfone	Aldrin
Metolachlor	Dicamba
Aldicarb	Metribuzin
Butachlor	

Regulated Volatile Organic Chemicals (VOCS)

Benzene	cis-1, 2-Dichloroethylene
Carbon Tetrachloride	Dichloroemethane
Monochlorobenzene	Para-Dichlorobenzene
Xylenes (total)	Ethylbenzene
1, 2-Dichloroethane	1, 1, 2-Trichloroethane
1,1,1-Trichloroethane	o-Dichlorobenzene
Trichloroethane	Styrene
Tetrachloroethylene	Ethylene Dibromide
Toluene	trans-1, 2 Dichloroethylene
1, 2, 4-Trichlorobenzene	1, 1-Dichloroethylene
Vinyl chloride	1, 2-Dibromo-3-Chloropropane

Regulated Pesticides

Endrin	Hexachlorobenzene	Lindane
Methoxychlor	Hexachlorocyclopentadiene	Oxamyl (Vydate)
Toxaphene	Picloram	2, 4-D
2, 4, 5-TP (SILVEX)	Polychlorinated biphenyls (PCBs)	Alachlor
Pentachlorophenol	Simazine	Atrazine
Carbofuran	Benzo(a)pyrene (PAH)	Chlordane
Dalapon	DI (2-ethylhexyl) adipate	Dinoseb
Endothall	Di (2-ethylhexyl) phthalate	Glyphosate
Heptachlor	2, 3, 7, 8,-TCDD (Dioxin)	Heptachlor Epoxide
Diquat		

Unregulated Volatile Organic Chemicals

Bromobenzene	Chloroform (0.0252ppm)	2, 2-Dichloropropane
Bromodichloromethane (0.00545ppm)	Chloromethane	1, 1-Dichloropropene
	o-Chlorotoulene	1, 3-Dichloropropane
Bromoform	p-Chlorotoulene	1, 1, 1, 2-Tetrachloroethane
Bromomethane	Dibromomethane	1, 1, 2, 2-Tetrachloroethane
Chlorodibromomethane (0.000657ppm)	m-Dichlorobenzene	1, 2, 3-Trichloropropane
	1, 1-Dichloroethane	
Chloroethane	1, 3-Dichloropropene	

The **Fayetteville Public Utilities Board** meets on the 4th Wednesday of each month at 8 am at the main FPU office. Meetings are open to the general public.

Call FPU at (931) 433-1522 to protect your water from backflow contamination.

DISINFECTION BYPRODUCTS-FPU monitors for disinfection byproducts, for which total trihalomethanes and Haloacetic Acids are indicators. These byproducts are produced as a result of disinfection chemicals combining with organic matter, for example, leaves in the source water. Samples taken from the distribution (water main) system in various areas of Fayetteville reveal an average of 63ppb and range from BDL ppb to 158ppb for total trihalomethanes. The MCL is 80ppb. An average of 47ppb with a range of BDL 90ppb to ppb for Haloacetic Acid (HAA5). The MCL for Haloacetic Acid is 60ppb. The average results for Total Organic Carbons (TOC) - Raw water-2.25mg/L and Finished water-1.425mg/L. We had an average removal of 36%; average required was 20%. All TOC requirements for removal were met. 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 system, and may have an increased risk of getting cancer.

2009 TEST RESULTS

Primary Standards	Teal Hollow	Year	Main Plant	Year	MCL	MCLG
Antimony-total	BDL	2007	BDL	2005	6 ppb	6
Arsenic	BDL	2007	BDL	2005	50 ppb	N/E
Barium	< .0074	2007	0.18	2005	2 ppb	2
Beryllium-total	BDL	2007	BDL	2005	4 ppb	4
Cadium	BDL	2007	BDL	2005	5 ppb	5
Chromium	BDL	2007	BDL	2005	100 ppb	100
Copper (2008)	(see right)				1.3 ppm*	1.3
Lead (2008)	(see right)				15 ppb*	0
Mercury	BDL	2007	BDL	2005	2 ppb	2
Nickel	BDL	2007	BDL	2005	100 ppb	N/E
Selenium	BDL	2007	BDL	2005	50 ppb	50
Thallium	BDL	2007	BDL	2005	2 ppb	0.5
Secondary Standards	**Teal Hollow**		**Main Plant**		**MCL**	**MCLG**
Aluminum	BDL	2007	BDL	2005	200 ppb	N/E
Iron	BDL	2007	BDL	2005	300 ppb	N/E
Manganese	BDL	2007	BDL	2005	50 ppb	N/E
Silver	BDL	2007	BDL	2005	100 ppb	N/E
Zinc	BDL	2007	BDL	2005	5 ppm	N/E
Primary Standards	**Teal Hollow**		**Main Plant**		**MCL**	
Cyanide		2007	BDL	2005	200 ppb	
Fluoride*	BDL	2007	.99		2 ppm	
Secondary Standards	**Teal Hollow**		**Main Plant**		**MCL**	
Sulfate	BDL	2007	BDL	2005	250 ppm	
Hardness (calcium)	NA		115		N/E	
Chloride	3.6	2007	6.1	2005	250 ppm	
Unregulated Characteristics	**Teal Hollow**		**Main Plant**		**MCL**	
Alkalinity	66		107		N/E	
Sodium (ppm)	3.0	2008	2.2		N/E	

* ACTION LEVEL *is the concentration of lead or copper in water which, if met by fewer than 90% of samples, would trigger special treatment requirements. The 90th percentile values for copper and lead in Fayetteville's water are 0.95 ppm and 4.2ppb, respectively. 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. Fayetteville Public Utilities 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 you have other questions about drinking water quality? If so, please call one of these numbers for assistance.

EPA Safe Drinking Water Hotline
1-800-426-4791
Tennessee Department of Environmental and Conservation
(615) 532-0109
Lincoln County Health Department
(931) 433-3231
Fayetteville Public Utilities
(931) 433-1522

MICROBIOLOGICAL-The FPU Water Department performs microbiological tests to assure that disinfection levels will protect public health. The MCL for microbiological is <2 samples in which total coliforms are present during a month. Drinking water which meets this standard is not associated with health risks from disease-causing bacteria and should be considered safe. FPU collects four samples weekly from Fayetteville's water mains. FPU is within compliance with all bacteriological standards. Crytosporidium is a microbial parasite which is found in surface water throughout the U.S. Although Cryptosporidium can be removed by filtration, however the most commonly used filtration methods cannot guarantee 100 percent removal. **Monitoring of our source water** indicated the presence of cryptosporidium in 4 out of 12 samples tested from the Elk River, and no cryptosporidium was detected in 12 samples taken from Teal Hollow Springs.

Nutrients-These levels are monitored because excess levels can lead to the growth of bacteria and algae.

Primary Standards	Teal Hollow	Main Plant	MCL	MCLG
Nitrate	1.8	1.0	10	10
Nitrite (1993)	0.004	0.004	1	1

Radionuclides- FPU conducts radiological testing to insure that the water meets all standards for these parameters. Results are measured in picoCuries per liter (pCi/L).

Primary Standards	Teal Hollow	Main Plant	MCL	MCLG
Gross Alpha (2008)	BDL	BDL	15 pCi/L	15 pCi/L

**Fluoride-Primary Standard relates to skeletalflurosis.*

Physical Characteristics-FPU monitors physical characteristics for any significant changes in water quality.

Primary Standards	Teal Hollow	Main Plant	MCL
Turbidity (max. 4-hour value)	0.29 NTU	0.29 NTU	<0.3 in 95% of samples
(min. monthly % of samples < 0.3)	100	100	
Secondary Standards	**Teal Hollow**	**Main Plant**	**MCL**
pH	6.3—7.1	6.4—7.8	6.5—8.5 (std units)
Color	1.0 (2007)	2.0 (2005)	15 (Pt. Co. units)
Inorganic Parameters			
MBAS	BDL (2007)	BDL (2005)	500 ppb
Odor (treshhold odor number)	1.0 (2007)	BDL (2005)	3