

**2003 Annual Drinking Water Quality Report
Arkadelphia Waterworks**

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 constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand 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. 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, can pick up substances resulting from the presence of animals or from human activity. Our source is surface water from Ouachita River.

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.

The Arkansas Department of Health completed a Source Water Vulnerability Assessment for Arkadelphia Waterworks. This assessment summarizes the potential for contamination of our source of drinking water and can be used as a basis for developing a source water protection plan. A report explaining the assessment process and results can be obtained from the Arkadelphia Waterworks office, or accessed through the Arkansas Department of Health's website at www.healtharkansas.com/eng/swp.htm

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. 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.

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).

If you have any questions about this report or concerning your water utility, please contact John Shuler, Water Plant Superintendent, at 870-246-2321. 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 Tuesday of each month from 11:30 AM to 1:00 PM at Arkadelphia City Hall.

Arkadelphia Waterworks routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st, 2003. In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

- Parts per million (ppm) or Milligrams per liter (mg/l)** - One part per million corresponds to one minute in two years or a single penny in \$10,000.
- Parts per billion (ppb) or Micrograms per liter** - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- Action Level** - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Maximum Contaminant Level** - The "Maximum Allowed" (MCL) is 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** - The "Goal" (MCLG) is 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.
- 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.
- Treatment Technique (TT)** - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- 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.

TEST RESULTS						
MICROBIOLOGICAL CONTAMINANTS						
Contaminant	Violation Y/N	Level Detected	Unit of Measurement	MCLG	MCL	Major Sources in Drinking Water
Turbidity	N	Highest yearly sample result: 0.81	NTU	NA	> .3NTU in > 5% of samples or any 1 sample > 1 NTU	Soil runoff
		Lowest monthly % of samples meeting the turbidity limit: 99%				
◆ Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system						
INORGANIC CONTAMINANTS						
Contaminant	Violation Y/N	Level Detected	Unit of Measurement	MCLG	MCL	Major Sources in Drinking Water
Fluoride	N	Average: 0.89 Range: 0.71 - 1.10	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate [as Nitrogen]	N	0.23	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

DISINFECTION BY-PRODUCT PRECURSORS

◆ The Total Organic Carbon (TOC) was routinely monitored in 2003, and because the source water TOC level was low, there was no requirement for TOC removal. 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

◆ Arkadelphia Waterworks routinely monitors the disinfectant residual in your drinking water. In 2003, no samples exceeded the Maximum Residual Disinfection Level (MRDL) set by EPA.

VOLATILE ORGANIC CONTAMINANTS						
Contaminant	Violation Y/N	Level Detected	Unit of Measurement	MCLG	MCL	Major Sources in Drinking Water
HAA5 (Haloacetic Acids)	N	Highest running annual average: 30.9 Range: 9.7 - 53.9	ppb	0	60	By-products of drinking water disinfection
TTHM [Total trihalomethanes]	N	Highest running annual average: 37.6 Range: 15.1 - 55.5	ppb	NA	80	
Dichloromethane (Methylene Chloride)	N	Average: 0.52 Range: 0 - 2.1	ppb	0	5	Discharge from pharmaceutical and chemical factories

LEAD AND COPPER TAP MONITORING						
Contaminant	Number of Sites Over Action Level	90 th Percentile Result	95 th Percentile Result	Unit of Measurement	Action Level	Major Sources in Drinking Water
Lead	0	0.002	0.005	ppm	0.015	Corrosion from household plumbing systems; erosion of natural deposits.
Copper	0	0.11	0.17	ppm	1.3	
◆ Arkadelphia Waterworks is on a reduced monitoring schedule and required to sample once every three years for lead and copper at the customers' taps. Our last monitoring period was in 2001. Our next required monitoring period is the year 2004.						

UNREGULATED CONTAMINANTS						
Contaminant	Level Detected	Unit of Measurement	MCLG	Major Sources in Drinking Water		
Chloroform	Average: 10.1 Range: 1.3 - 16.5	ppb	N/A	By-products of drinking water disinfection		
Bromodichloromethane	Average: 4.64 Range: 4.01 - 5.9	ppb	0			
Dibromochloromethane	Average: 0.86 Range: 0.52 - 1.39	ppb	60			
Bromomethane	0.34	ppb	N/A	Mainly used in pesticide formulation. It is also used to make other chemicals. Other uses include degreasing wool and extracting oil from nuts, seeds and flowers.		
Chloromethane	0.9	ppb	N/A	99% of chloromethane is naturally occurring and is mostly produced by some plants, marine algae and rotting wood and when materials such as grass, wood, coal and charcoal burn. Industrially, it is used in the production of other chemicals such as silicones, agricultural chemicals and butyl rubber. It is also used as an ingredient of fire extinguishing fluids and as a gage fluid and is a by-product of chlorine disinfection. It can dissolve in water, and small amounts of it in air may go into surface or ground water when it rains.		

◆ 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.