

Water is an important natural resource that we use in so many wonderful ways: Drinking, bathing, cooking, recreating, food processing, manufacturing, irrigating our lawns and gardens, heating, and cooling. It is a basic service on which each of us depends every single day, and it is the lifeline of every community. That's why at Little Rock Municipal Water Works, we take very seriously our responsibility to ensure that we provide you with a high-quality water service that meets all federal and State of Arkansas standards for health and safety.

For the 12-month compliance period ending 31 December 2000, your waterworks maintained a record of complete and consistent compliance with the federal Safe Drinking Water Act (SDWA) and Arkansas' Rules and Regulations Pertaining to Public Water Systems. In fact, the water delivered to your home, business, or industry is of a higher quality than is required by state and federal standards.

This 2000 Annual Water Quality report is our public statement of accountability to you, our customers. Required by the Consumer Confidence Report Rule of the SDWA, the report tells you about the sources of your drinking water; the treatment process that takes place between the raw water sources and delivery to your tap; how the quality of your drinking water compares to federal and state standards; and the program of analytical procedures that we use to test the safety of the water. Further, the report provides you with information on the substances in your drinking water and whether the levels are safe, as determined by the U.S. Environmental Protection Agency (USEPA) and Arkansas Department of Health (ADH).

We also utilize this annual report as an opportunity to update you on the significant steps and improvements that we have undertaken within the past year to ensure and enhance the quality of your water service — now and in the future.

The SDWA, enacted by Congress in 1974 and subsequently amended, is the rule of standards for all public drinking water systems in the United States. It specifically requires treatment and monitoring by all public water systems (systems serving 25 or more people on a regular basis or systems with 15 or more metered connections) to ensure the meaningful oversight of all public drinking water systems and to protect public health. Enforced by USEPA and the ADH, the law currently requires us to test for 83 potential contaminants and to monitor for an additional two dozen or so substances. For each substance, there is a Maximum Contaminant Level (MCL) or Action Level (AL).

Regulated constituents range from lead and copper to pesticides. Some substances are found naturally in the environment and other potential contaminants are introduced by industry, agriculture, and other human processes. The MCL is the maximum concentration allowed in drinking water or the concentration at which the contaminant, over an extended period of exposure, could cause adverse health effects. The AL is the level at which additional treatment or corrosion control must be undertaken to protect public health.

Under the SDWA, USEPA and the Health Department routinely monitor our operations and treatment processes to make sure that we are taking the necessary steps to produce and deliver water service that is safe and healthful to the 360,000 people who depend on us.

For the reporting period of 2000, our Laboratory Section conducted approximately 155,000 analyses at the various stages of the water production, treatment, and distribution process. In addition, the Arkansas Department of Health performed almost 600 analyses on samples collected from our raw water sources, Lake Winona and Lake Maumelle; the Jack H. Wilson Water Treatment Plant and the Ozark Point Water Treatment Plant; and our distribution pipelines.

Since the enactment of the federal Safe Drinking Water Act 26 years ago, Little Rock Municipal Water Works has had **ZERO** violations of the allowable levels of potential contaminants. While the SDWA establishes uniform national



Photograph by Mark Mathews, Peerless Photography of Little Rock

Our Laboratory Staff include (clockwise from left) Andrew McLemore, Gwendolyn Osler, Don Murphree, Ronnie Bankston, and Larry Polk. For the 12-month compliance period running from 1 January 2000 through 31 December 2000, we conducted approximately 155,000 analyses at the various stages of the water treatment and production process. Our quality control program goes above and beyond federal and State of Arkansas requirements.

drinking water standards for public suppliers, both our analytical testing procedures and quality of water are above and beyond federal and state requirements — a record of which we are extremely proud.

Environmental and Water Quality Excellence

Most indicative of our commitment to quality and service is the fact that we are a four-time recipient of the U.S. Environmental Protection Agency's Region 6 Environmental Excellence Award for Public Water Supply. We earned the award in 1990, 1993, 1996, and 1999. The award program recognizes public water systems for outstanding operations and maintenance practices and exemplary compliance with the federal Safe Drinking Water Act. We are the only municipal system to have received the award for four consecutive eligibility periods.

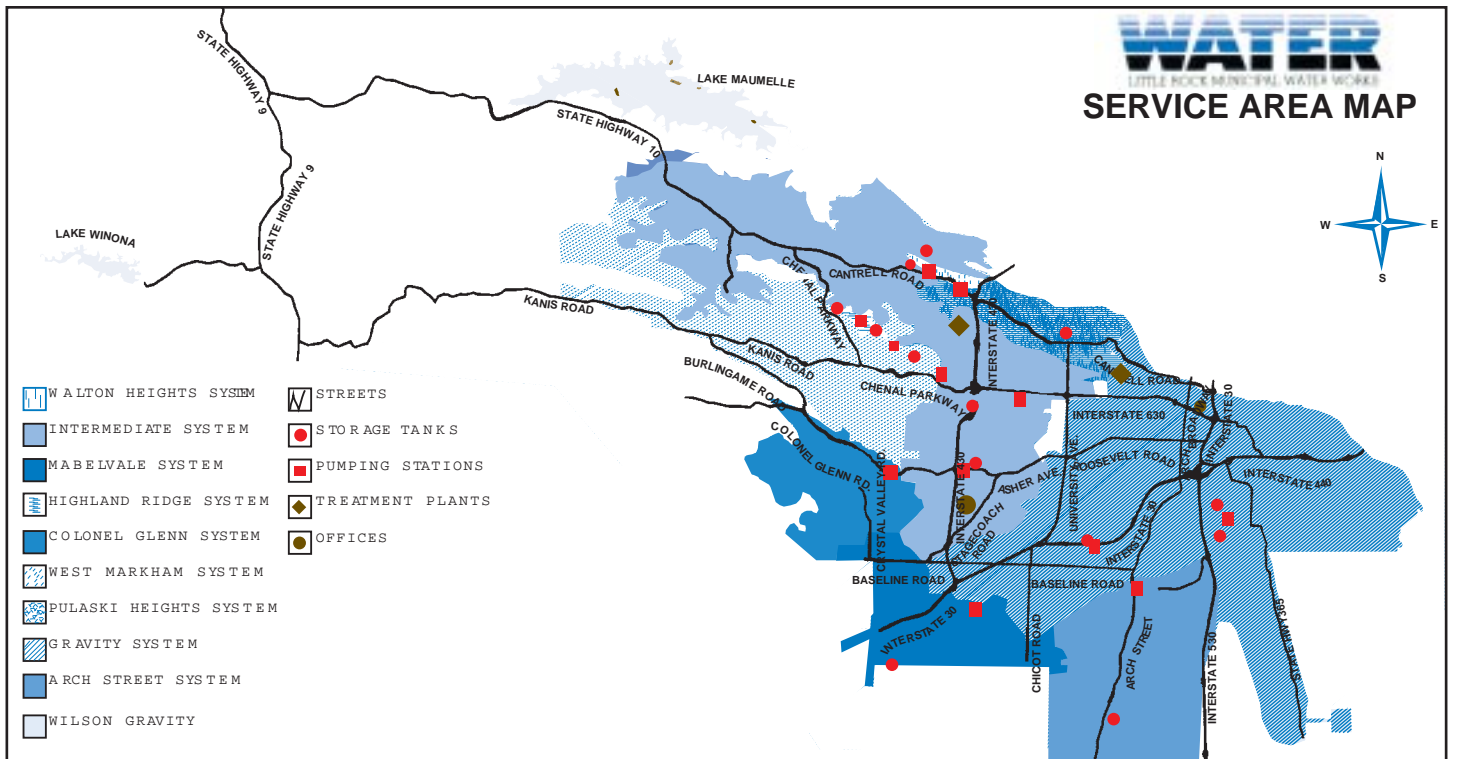


Our mission is to provide you with the best water service possible at a fair price.

2000 System Highlights

- Complete compliance with federal and State of Arkansas standards for drinking water quality and safety, including limits for lead and copper (We had **ZERO** violations of the federal Safe Drinking Water Act.)
- Presentation of our fourth consecutive Environmental Excellence Award from the U.S. Environmental Protection Agency, Region 6, for outstanding operations, maintenance, managerial, financial, customer service, and community relations practices.
- Initiation of talks between Little Rock Municipal Water Works and the North Little Rock Water Department about the merger of the two systems to ensure the future of quality water service at reasonable rates and to foster regional cooperation on a future water source.
- Completion of Phase I and start of Phase II of \$31 million of capital improvements to the Jack H. Wilson Water Treatment Plant and Ozark Point Water Treatment Plant. (The improvements are to enhance the treatment process, achieve optimum efficiency in plant operations, and increase the Wilson Plant's current rated treatment capacity of 100 million gallons per day to a new rated treatment capacity of 150 million gallons per day.)
- All-time record for the amount of water consumed systemwide in a single day—122.7 million gallons on 31 August.

ATENCIÓN: Por el año 2000, la calidad del agua proporcionado por los trabajos del agua municipal de Little Rock es seguro para beber y se conforma con las reglaciones del gobierno federal y estatal. Éste documento contiene información importante acerca del agua para beber y del suministro del agua pública. Si no lee inglés, favor de encontrar alguien para traducir ésta información.



Source to the Tap

Little Rock Municipal Water Works receives its supply from two surface water sources, Lake Maumelle and Lake Winona. Lake Maumelle is located on Arkansas Highway 10 approximately 10 miles west of the Little Rock city limits in Pulaski County. Lake Winona is located approximately 5 miles west of the City of Paron in Saline County. In addition, both lakes supply water to Jackson Reservoir, a regulating reservoir located on Cantrell Road between Reservoir Park and Reservoir Road within the city limits of Little Rock. Water is delivered by pipeline to the Jack H. Wilson Water Treatment Plant and the Ozark Point Water Treatment Plant. Both treatment facilities are located within the city limits of Little Rock.

Source Water Assessment Statement

The Arkansas Department of Health completed a Source Water Vulnerability Assessment for Little Rock Municipal Water Works in June 2000. 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. A report explaining the assessment process and results may be obtained from the Little Rock Municipal Water Works office located at 221 East Capitol Avenue (501-377-1229) or accessed through the Arkansas Department of Health's Source Water Assessment Program website at

<http://health.state.ar.us/eng/swp.htm>

About Drinking Water

Sources of drinking water (both tap water and bottled water) include lakes, rivers, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive materials and can pick up substances resulting from the presence of animals or human activity.

Substances that may be present in source water include:

- ◆ Microbial substances, such as viruses and bacteria, which may come from septic systems, agricultural livestock operations, and wildlife
- ◆ Inorganic substances, such as salts and metals, which can be naturally occurring or result from oil and gas production, domestic wastewater discharges, mining, or farming
- ◆ Pesticides and herbicides, which may come from a variety of sources, such as agriculture, silviculture (forestry activity), and residential uses
- ◆ Organic chemicals, which include synthetic and volatile organic chemicals that are by-products of petroleum production and which also can come from gas stations and septic systems
- ◆ Radioactive substances, 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, the U.S. Environmental Protection Agency prescribes regulations that limit the amount of certain substances in water provided by public drinking water systems. U.S. Food and Drug Administration (USFDA) regulations establish limits for substances in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, reasonably may be expected to contain at least small amounts of some contaminants. The presence of the contaminants does not necessarily mean that the water poses a health risk. More information about contaminants in drinking water and potential health effects may be obtained by calling the U.S. Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

Information for Vulnerable Populations

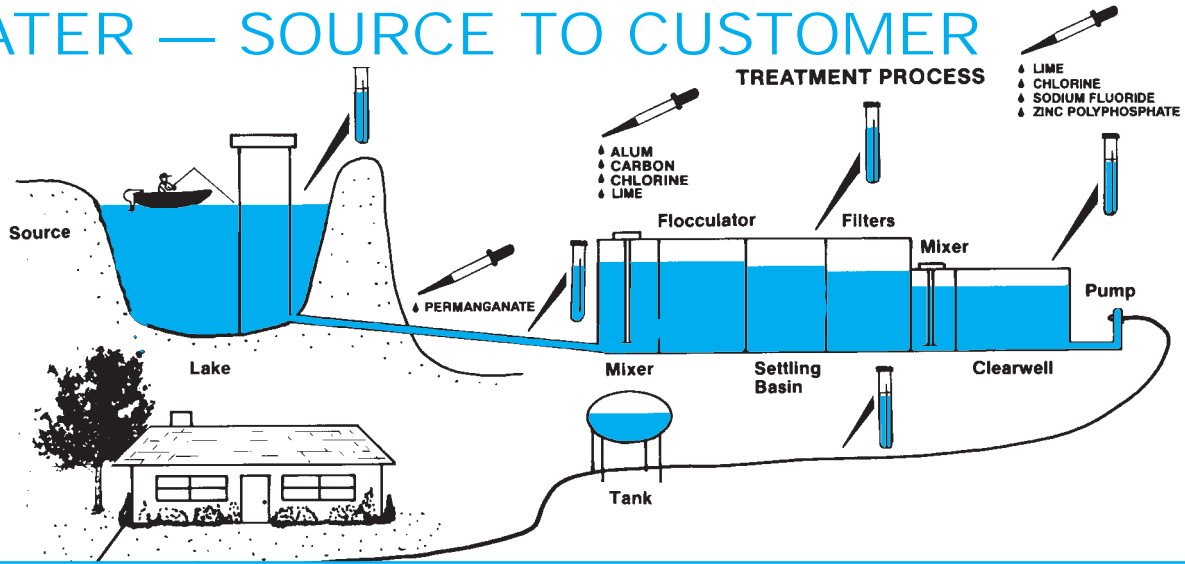
Some people may be more vulnerable than the general population to contaminants in drinking water. Immuno-compromised persons, such as persons who have cancer and are undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. Environmental Protection Agency and Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection from *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

About Cryptosporidium

Little Rock Municipal Water Works began quarterly monitoring of source water and treated water for *Cryptosporidium parvum* and *Giardia lamblia* in November 1994. From July 1997 through December 1998, monthly monitoring of the source was performed as part of USEPA's Information Collection Rule (ICR). Beginning in March 1999 and continuing throughout the year, twice-monthly monitoring of Lake Maumelle was performed, as part of the ICR Supplemental Survey. There have been no confirmed detections of *Cryptosporidium parvum* in the source water and only two confirmed detections of *Giardia lamblia* from the 80 samples taken from the raw water sources. ***Cryptosporidium parvum* and *Giardia lamblia* have never been detected in the treated water supplied to your tap.** The ICR involved a survey of the sampling, analytical, and compliance processes of all medium to large public drinking water systems in the United States. The research was conducted specifically to facilitate future federal water quality standards.

Little Rock Municipal Water Works' 2000 Water Quality Report is applicable to homes, businesses, and industries served by our public drinking water system.

WATER — SOURCE TO CUSTOMER



Water Treatment Process

Little Rock Municipal Water Works utilizes conventional water treatment processes at each of its two water treatment plants. These processes include flash mixing, coagulation/flocculation, sedimentation, filtration, and disinfection. Raw water from Lake Winona and Lake Maumelle flows to the Ozark Point Water Treatment Plant and the Jack H. Wilson Water Treatment Plant, with any raw water not being used by the plants diverted to Jackson Reservoir for future use. The water first enters the treatment plants at flash mixing chambers, where the coagulant, aluminum sulfate (alum), is added for particle removal, and lime is added for pH adjustment. Activated carbon is added seasonally for taste and odor control. Water then flows to the flocculation basins where the water and chemicals are mixed gently to form “floc,” which consists of agglomerations of suspended particles, such as silt, bacteria, and algae. The water then proceeds to sedimentation basins to allow the “floc” particles to settle out. Water is drawn off the top of the sedimentation basins then flows downward through

filters (sand and anthracite) where remaining particles are removed. Before or after filtration, chlorine is added for disinfection. Finally, fluoride is added for the prevention of cavities in children’s teeth, phosphate for the minimization of corrosion in the distribution system piping, and lime for final adjustment of water pH. From here, the water enters one of several 5-million-gallon clearwells for temporary storage. (Clearwells store finished water at the treatment plants.) The water then enters into the 1,363-mile network of distribution system pipes leading to the customer’s tap. The distribution system also includes 14 remotely-located storage tanks with a combined storage of 22.7 million gallons, 12 booster pumping stations that provide water to higher elevation pressure zones, and 5 remotely-operated inter-pressure system valves. This water production/treatment process—from beginning to end process—is monitored and controlled from the two treatment plants by a computerized Supervisory Control and Data Acquisition (SCADA) System.

Additional Water Quality Information Secondary Standards

Physical Parameters	Unit of Measure	SMCL	Average Value	Range of Values
Apparent Color	Color Units	15	0	0-10
Threshold Odor	TON	3	0	0-3
Inorganic Chemicals	Unit of Measure	SMCL	Average Value	Range of Values
Aluminum	ppm	0.05-0.2	0.057	0.021-0.190
Chloride	ppm	250	3	1-10
Iron	ppm	0.3	0.009	0.002-0.026
Manganese	ppm	0.05	0.00	0.00-0.04
Silver	ppm	0.1	< 0.005	All < 0.005
Sulfate	ppm	250	12	6-20
Total Dissolved Solids	ppm	500	32	19-43
Zinc	ppm	5	0.06	0.03-0.09
Hydronium (pH)	SU	6.5-8.5	7.9	7.2-8.8

Unregulated Physical and Chemical Parameters

Parameter	Unit of Measure	Average Value	Range of Values
Alkalinity (Phenolphthalein)	ppm	0	0-2
Alkalinity (Total)	ppm	9	7-15
Calcium	ppm	5.7	4.6-8.6
Conductivity	uohm/cm	65	55-86
Hardness	grains/gallon	1.2	1.0-1.9
Magnesium	ppm	1.1	0.8-1.5
Phosphate (Total)	ppm	0.28	0.03-0.38
Potassium	ppm	0.6	0.3-1.0
Silica	ppm	<1	<1-1
Sodium	ppm	1.7	1.5-2.1
Sediment	ppm	< 0.5	All < 0.5
Temperature	° F	67°	39°-90°

Glossary of Terms

Action Level (AL) – the concentration of a contaminant, which — if exceeded – triggers treatment or other requirements that a drinking water system must follow.

Grain – measurement of mass. One gram is equal to 15.4 grains. One Grain per gallon equals 17 parts per million.

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) – 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.

Micromhos per centimeter (umho/cm) – measurement of conductivity.

Nephelometric Turbidity Units (NTUs) – a measure of the clarity of water. Turbidity in excess of 5 NTUs is barely noticeable to the average person.

None Detected (ND) – laboratory analyses indicates that the constituent is not present.

Not Applicable (N/A) – does not apply.

Parts per billion (ppb) – one part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.

Parts per million (ppm) – one part per million corresponds to one minute in two years or a single penny in \$10,000.

Safe Drinking Water Act (SDWA)

Secondary Maximum Contaminant Level (SMCL) – recommended guideline for enhancing aesthetic quality of water (odor and appearance). The Secondary Standards are not required for compliance with the federal Safe Drinking Water Act.

Standard pH Unit (SU) – measurement of acidity or alkalinity of water.

Threshold Odor Number (TON) – measurement designed to effectively monitor odor, regardless of origin.

Treatment Technique (TT) – a required process intended to reduce the level of a contaminant in drinking water.

Regulated Substances

Listed in the chart below are the substances detected in Little Rock Municipal Water Works' treated water. This chart contains testing results for 2000. **All test results are below allowable levels.** Not listed are several hundreds of other substances that were monitored but not detected. Little Rock Municipal Water Works operates two water treatment plants. The Jack H. Wilson Water Treatment Plant primarily serves the areas of Little Rock and Pulaski County west of University Avenue. The Ozark Point Water Treatment Plant primarily serves the areas of Little Rock and Pulaski County east of University Avenue. Some blending of water from the two treatment plants takes place within the pipelines of the distribution system.

In the chart, "W" indicates water quality monitoring results for our Jack H. Wilson Water Treatment Plant and "OP" indicates water quality monitoring results for our Ozark Point Water Treatment Plant. "D" indicates water quality monitoring results for our distribution system.

Inorganic Substances

SUBSTANCE (Unit of Measure)	MCLG	MCL	Highest Level Detected	Lowest Monthly Percentage of Samples Meeting Turbidity Limit	SDWA Violation	Likely Source of Substance
Turbidity (NTU)	N/A	5.0 NTU and 95% of monthly samples equal to or less than 0.50 NTU	0.39 (W) 0.44 (OP)	100% (W) 100% (OP)	No (W and OP)	Turbidity is a measurement of the cloudiness of water. We monitor it as it is a good indicator of the effectiveness of our filtration process. Turbidity may be caused by soil runoff.
SUBSTANCE (Unit of Measure)	MCLG	MCL	Average Level Detected	Range Detected	SDWA Violation	Likely Source of Substance
Fluoride (ppm)	4	4	0.76 (W) 0.86 (OP)	<0.20-0.87 (W) 0.66-1.08 (OP)	No (W and OP)	Erosion of natural deposits; water additive that promotes strong teeth.
Nitrite/Nitrate (ppm)	10	10	0.06 (W) 0.05 (OP)	One Sample Only (W and OP)	No (W and OP)	Runoff from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits.
SUBSTANCE (Unit of Measure)	AL	90th Percentile Concentration	95th Percentile Concentration	Number of Samples Exceeding Action Level	SDWA Violation	Likely Source of Substance
*Lead (ppb)	15	3 (D)	5 (D)	0	No	Corrosion of household plumbing; erosion of natural deposits.
*Copper (ppb)	1300	120 (D)	220 (D)	1**	No	Corrosion of household plumbing; erosion of natural deposits.

*Lead and copper monitoring results reported are from the latest required round of sampling in 1998. Next required sampling is scheduled for 2001.

**The sample exceeding the Action Level was not on the Little Rock distribution system.

Microbiological Substances

SUBSTANCE (Unit of Measure)	MCLG	MCL	Highest Level Detected	Range Detected	SDWA Violation	Likely Source of Substance
Coliform Bacteria (% positive)	0	5% of monthly samples total coliform positive	3% (D)	0%-3% (D)	No	Naturally present in the environment.

Volatile Organic Substances

SUBSTANCE (Unit of Measure)	MCLG	MCL	Highest Level Detected	Range Detected	SDWA Violation	Likely Source of Substance
Total Trihalomethanes (ppb)	0	Running Annual Average (RAA) of 100 ppb	51.6 (D)	25.5-91.5 (D) at individual sampling sites	No	Disinfection byproduct.

Synthetic Organic Substances (Including Pesticides and Herbicides)

SUBSTANCE (Unit of Measure)	MCLG	MCL	Highest Level Detected	Range Detected	SDWA Violation	Likely Source of Substance
Bis (2-ethylhexyl) phthalate (ppb)	0	6	1.86 (OP)	One Sample Only (OP)	No	Discharge from rubber and chemical factories.

Unregulated Substances for Which Monitoring is Required

Unregulated contaminants are the substances for which the U.S. Environmental Protection Agency (USEPA) has not established Drinking Water Standards. The purpose of unregulated contaminant monitoring is to assist USEPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

*"W" represents Jack H. Wilson Water Treatment Plant and "OP" represents Ozark Point Water Treatment Plant. "D" indicates water quality monitoring results for our distribution system.

**These contaminants are not regulated individually, but are regulated as part of the Total Trihalomethanes group, which has a Maximum Contaminant Level (MCL) of 100 parts per billion (ppb).

Volatile Organic Substances

SUBSTANCE (Unit of Measure)	MCLG	MCL	Average Level Detected	Range	Likely Source of Substance
Chloroform (ppb)**	N/A	Not Regulated	71.5 (W) 24.3 (OP)	One Sample Only at Each Plant	Component of Total Trihalomethanes.
Bromodichloromethane (ppb)**	N/A	Not Regulated	4.7 (W) 1.9 (OP)	One Sample Only at Each Plant	Component of Total Trihalomethanes.
Dibromochloromethane (ppb)**	N/A	Not Regulated	0.32 (W)	One Sample Only (W)	Component of Total Trihalomethanes.
Monochloroacetic acid (ppb)	N/A	Not Regulated	1.3 (D)	0-4.9 (D)	Disinfection byproduct
Monobromoacetic acid (ppb)	N/A	Not Regulated	0.25 (D)	0-1.8 (D)	Disinfection byproduct
Dichloroacetic acid (ppb)	N/A	Not Regulated	17.8 (D)	3.5-29.1 (D)	Disinfection byproduct
Trichloroacetic acid (ppb)	N/A	Not Regulated	14.4 (D)	6.6-27.2 (D)	Disinfection byproduct
Bromochloroacetic acid (ppb)	N/A	Not Regulated	1.9 (D)	0-3.2 (D)	Disinfection byproduct
Chloral Hydrate (ppb)	N/A	Not Regulated	6.8 (D)	2.1-14 (D)	Disinfection byproduct
Total Organic Halides (ppb)	N/A	Not Regulated	141 (D)	ND-285 (D)	Disinfection byproduct
Haloacetonitriles (ppb)	N/A	Not Regulated	2.7 (D)	ND-12.5 (D)	Disinfection byproduct
Haloketones (ppb)	N/A	Not Regulated	1.9 (D)	ND-3.4 (D)	Disinfection byproduct
Chloropicrin (ppb)	N/A	Not Regulated	< 0.5 (D)	ND-0.5 (D)	Disinfection byproduct

Inorganic Substances

SUBSTANCE (Unit of Measure)	MCLG	MCL	Average Level Detected	Range	Likely Source of Substance
Chlorine Residual (ppm)	N/A	Not Regulated	0.9 (D)	0.2-1.6 (D)	Water additive used for disinfection.

Investigative Monitoring Organic Substances

SUBSTANCE (Unit of Measure)	MCLG Measured at:		MCL Measured at:		Average Level Detected Measured at:		Range Measured at:		Likely Source of Substance
	Source (Lakes)	Treatment Plants	Source (Lakes)	Treatment Plants	Source (Lakes)	Treatment Plants	Source (Lakes)	Treatment Plants	
Total Organic Carbon (ppm)	N/A	N/A	Not Regulated		2.70	1.68	2.11-3.49	1.20-2.17	Decay of organic matter.
SUBSTANCE (Unit of Measure)	MCLG		MCL		Highest Running Annual Average		Range at Individual Sites		Likely Source of Substance
Haloacetic Acids 5* (ppb)	N/A		Not Regulated		34.5 (D)		13.9-65.3 (D)		Disinfection byproduct

*Haloacetic Acids 5 is a group that includes monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid.

The purpose of investigative monitoring is to develop a baseline of information on substances that are scheduled for future regulation.

For additional information about this report, please, write or call:

Little Rock Municipal Water Works
221 East Capitol Avenue
P.O. Box 1789
Little Rock, AR 72203

U.S. Environmental Protection Agency
Safe Drinking Water Hotline
1-800-426-4791

Gary Hum, Water Quality Supervisor (501) 223-1577

Marie A. Crawford, Director of Communications (501) 377-1229

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Jim Harvey, Chief Executive Officer



2000 Water Quality Report

Public Participation

If you are interested in learning more about your municipal waterworks, there are a number of opportunities to do so. The five-member Board of Water Works Commissioners meets at 4:00 p.m. every second Wednesday of the month at the Little Rock Water Utilities Building (221 East Capitol Avenue in Little Rock). In addition, the seven-member Interim Board of Commissioners for Central Arkansas Water meets at 4:00 p.m. every third Thursday of the month at the Little Rock Water Utilities Building. Changes in meeting location and times, as well as special meetings, are announced prior to the meeting date. All Board sessions are open to the public and news media. We also have a Residential Customers Advisory Board and an Industrial/Commercial Customers Advisory Board. (Central Arkansas Water is the new water utility being formed by the merger of Little Rock Municipal Water Works and the North Little Rock Water Department.)

www.littlerockwater.com is our Website address.

Our Commitment to You

Our goal is to provide customers with the very best water service possible at a fair price. Meeting this objective requires compliance with all national standards of quality and safety, customer service that meets both your needs and expectations, water rates that are reasonable and equitable to all customer classes, and revenue levels and controls that adequately ensure the operations and maintenance needs of a safe and reliable drinking water system.

Little Rock Municipal Water Works' 2000 Water Quality Report is applicable to homes, businesses, and industries served by our public drinking water system.



American Water Works
Association Research
Foundation



Arkansas
Department
of Health



Environmental Excellence
Award Recipient, Region 6
1990 1993 1996 1999



American Water Works
Association Member
Southwest Section