

2008

Water Quality

R E P O R T

CENTRAL
ARKANSAS
WATER

Depend on us – today *and* tomorrow.

ESSENTIAL & EXCEPTIONAL



Consumer Confidence in Quality and Service

Imagine for just a second. How important is the quality of your drinking water? It's absolutely essential to your quality of life and your health.

At Central Arkansas Water, the quality of your drinking water is what counts most. Our job is to make sure that each time you turn on the tap, you get what you expect — a flow of safe and reliable drinking water.

How well did we perform during the most recent year?

For the 12-month regulatory compliance period of January 1 through December 31, 2008, the quality of your drinking water met and excelled above all federal and state primary standards for health and safety.

For the 35th straight year in a row, your water supplier has had **ZERO violations** of the federal Safe Drinking Water Act and State of Arkansas' Rules and Regulations Pertaining to Public Water Systems.

What's in Your 2008 Water Quality Report?

- Results of tests that CAW and regulatory agencies conducted to make sure your drinking water is safe for consumption
- Information that the Arkansas Department of Health and U.S. Environmental Protection Agency require that you know about your drinking water
- Information on the steps that Central Arkansas Water is taking to protect your drinking water and public health

Your receipt of this 2008 Water Quality Report is a requirement of the Arkansas Department of Health and U.S. Environmental Protection Agency.

PROUDLY PROVIDING
35 YEARS
OF SAFE DRINKING WATER
TO CENTRAL ARKANSAS

2008

Water Quality

REPORT

While drinking water is a basic resource that we need and use every day, it probably is rare that the average consumer takes a second to think about the importance of its safety and reliability.

At Central Arkansas Water (CAW), we think about it — every day — so that you can take it for granted with confidence.

You are receiving your 2008 Water Quality Report in compliance with the federal Safe Drinking Water Act (SDWA). The SDWA is the law of standards for public drinking water suppliers in the United States. It specifically requires the protection of drinking water sources and the monitoring of water quality and treatment to ensure the protection of public health.

The SDWA's Consumer Confidence Rule mandates that by July 1 of each year, we provide all customers with information on the quality and sources of your drinking water and how the quality of your drinking water measures up to federal and state standards.

The initial enactment of the SDWA was in 1974 by the U.S. Congress. Since that time, Congress has amended the law to provide for stricter drinking water standards. The current regulations require that public water suppliers, such as CAW, test for 88 potential contaminants and limit the level of concentration at which substances may be in the finished drinking water.

CAW's comprehensive program of source and treatment, watershed management, engineering, and distribution has the objective of ensuring that the quality of your drinking water excels above current federal and

state standards and is ahead of compliance with new regulations. Along with the federal requirements, CAW tests for an additional two dozen other potential contaminants.

During the 12-month compliance period of 2008, our laboratory and operations personnel conducted more than 146,000 tests — an average of 400 tests a day, 365 days a year — on the various stages of the water production, treatment, and delivery process. Coupled with our 24-hour monitoring of treatment and delivery and additional testing by the Arkansas Department of Health, the quality assurance measures translate into quality and reliability at the tap for you.

Source to the Tap

Central Arkansas Water receives its supply from two surface water sources, Lake Maumelle and Lake Winona. Lake Maumelle is located in Pulaski County. Lake Winona is located in Saline County. Both lakes can supply water to Jackson Reservoir, a regulating reservoir located within the Little Rock city limits. Water is delivered by pipeline to the Jack H. Wilson Water Treatment Plant and Ozark Point Water Treatment Plant. Both treatment plants are located within the city limits of Little Rock.

Water Treatment Process

Central Arkansas Water utilizes a conventional water treatment process at each of our two water treatment facilities. The process includes flash mixing, coagulation/flocculation, sedimentation, filtration, and disinfection.



Source Water Assessment Statement

The Arkansas Department of Health completed a Source Water Vulnerability Assessment for the water utility in June 2000. The assessment, a requirement of the federal Safe Drinking Water Act, 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. Based on the various criteria of the assessment, our surface water sources have been determined to have medium to high susceptibility to contamination due to surrounding land uses.

Customers may obtain a copy of the report, which explains the assessment process and includes the results, from Central Arkansas Water's administrative office at 221 East Capitol Avenue in Little Rock or by calling 501.377.1229.

Retail Service Area

- Little Rock
- North Little Rock
- Alexander
- Brushy Island Public Water Authority
- Cammack Village
- College Station
- Sherwood
- Wrightsville
- 145th Street Water and Sewer Improvement District
- Unincorporated Pulaski County

Wholesale Service Area

- Bryant
- Jacksonville
- North Pulaski Water Works Association
- Shannon Hills
- Salem Water Users Public Water Authority
- Sardis Water Association Public Water Authority
- Woodland Hills

Lake Maumelle Watershed Management Plan

Protection of our primary drinking water source, Lake Maumelle, is the current focus of our Watershed Management Program. CAW is in extensive collaboration with city, county, state, and federal elected officials, as well as regulatory and natural resources agencies, to strengthen watershed protection strategies for the lake.

Lake Maumelle provides 65% of daily demand by CAW customers, who encompass 16 cities and communities and a population of approximately 398,000. The lake's watershed covers 88,000 acres, which feed stormwater runoff into and replenish the lake. More than half of the acreage is under private ownership, thus susceptible to changes in land-uses that adversely could affect the lake's water quality.

Toward the development of a comprehensive program of safeguards against increased pollution, CAW in 2007 adopted the Lake Maumelle Watershed Management Plan. The science- and public policy-based plan directs pro-active measures related to lake management, water quality monitoring, best management practices for private land development and forestry activities, good "household" practices by property owners, and land acquisition by CAW.

The two immediate objectives of the plan are to enact regulations that would prohibit the surface discharge of wastewater in the lake's watershed and to incorporate watershed protection provisions into the Subdivision and Development Code of Pulaski County. CAW anticipates having the new provisions in force by the end of next year.

In 2008, the utility also expanded water quality monitoring for Lake Maumelle to include testing for pharmaceuticals and other emerging contaminants that indicate the infiltration of wastewater. Tests, to date, reveal no detectable levels of such contaminants.

Lake Maumelle has been CAW's primary water source for 50 years and the Watershed Management Program is to ensure our continued long-term use of the reservoir. Lake Winona, our second water source, is under a unique protection agreement with the U.S. Forest Service. The lake's entire 27,250 acres of watershed are within the Ouachita National Forest.

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, farming, and urban stormwater runoff.
- Pesticides and herbicides, which may come from a variety of sources,

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such as agriculture, silviculture (forestry activity), residential uses, and urban stormwater runoff.

- Organic chemicals, which include synthetic and volatile organic chemicals that are by-products of petroleum production and which also can come from gas stations, septic systems, and stormwater runoff.
- Radioactive substances, which can be naturally occurring or 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 (USEPA) Safe Drinking Water Hotline (1.800.426.4791).



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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. U.S. Environmental Protection Agency and Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection from *Cryptosporidium parvum* and other microbial contaminants are available through the Safe Drinking Water Hotline (1.800.426.4791).

About Cryptosporidium

Cryptosporidium parvum is a microbial contaminant that is linked to animal and human waste. The contaminant is fairly common in the untreated water of surface sources (lakes and rivers). *Cryptosporidium* never has been detected in the treated water supplied to your tap.

Of the 88 samples collected over the past 14 years, there have been only two detections of *Cryptosporidium* in the untreated surface sources. Quarterly monitoring for *Cryptosporidium* began in 1994.

From July 1997 through December 1998, we performed monthly monitoring of the source water, as part of USEPA's Information Collection Rule (ICR). Beginning in March 1999 and continuing throughout the year, we conducted twice-monthly monitoring of Lake Maumelle, as part of the ICR Supplemental Survey of USEPA.

Beginning in January 2004 and continuing through March 2006, we conducted monthly sampling for *Cryptosporidium* in the source water in preparation for upcoming regulations.

About Lead in Drinking Water

If present in drinking water, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. The source of lead in drinking water primarily is from the materials and components associated with service lines and home plumbing.

Central Arkansas Water is responsible for ensuring that the drinking water the utility delivers to your tap meets all federal and state standards for health and safety; however, the water utility cannot control the variety of materials that customers use in plumbing components. When water has been sitting for several hours in plumbing, a customer can minimize the potential for lead exposure by flushing the tap for 30 seconds to 2 minutes before using water for drinking, beverage preparation, or cooking.

CAW advises that if a customer has a concern about lead in the drinking water at the tap, the customer may contact a private laboratory for testing or a customer may contact the Arkansas Department of Health at 501.661.2623. Additional information on the potential for lead in drinking water, testing methods, and steps a customer may take to minimize exposure is available from the Safe Drinking Water Hotline at 1.800.426.4791 or at <http://www.epa.gov/safewater/lead>.

Public Participation

If you are interested in learning more about your public waterworks, there are various opportunities to do so. The seven-member Board of Commissioners meets at 2 p.m. each second Thursday of the month at the James T. Harvey Administration Building. The building location is 221 East Capitol Avenue in Little Rock. The Board announces changes in meeting location and times, as well as special meetings, prior to the meeting dates. All sessions are open to the public and news media.

Regulated Substances

The charts in this document indicate the substances that Central Arkansas Water detected in treated water. The charts contain testing results for 2008. We have not listed the several hundreds of substances for which we monitored but did not have a detectable level.

CAW 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 and the areas of North Little Rock north of Interstate 40.
- The Ozark Point Water Treatment Plant primarily serves the areas of Little Rock and Pulaski County east of University Avenue and the areas of North Little Rock south of Interstate 40.

Some blending of water from the two treatment plants takes place within the pipelines of the distribution system. In the charts, "W" indicates water quality monitoring results for the Wilson Plant and "OP" indicates water quality monitoring results for the Ozark Point Plant. "D" indicates water quality monitoring results for our Distribution System.

Mission Statement: To enhance the quality of life for Central Arkansas by delivering high-quality water and dependable service that exceed customer expectations; protecting and ensuring a long-term water supply for future generations; and serving as responsible stewards of public health, utility resources, and the environment.



Water Quality Terms

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

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. This is an unenforceable public health goal.

Maximum Residual Disinfectant Level (MRDL) — The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for the control of microbial contaminants, such as bacteria.

Maximum Residual Disinfectant Level Goal (MRDLG) — The level of a drinking water disinfectant below which there is no known or expected risk to public health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Micromhos per centimeter (umho/cm) — Measurement of conductivity.

Nephelometric Turbidity Units (NTUs) — A measure of turbidity (clarity) of water.

None Detected (ND) — Laboratory analyses indicate that the constituent is below detectable levels.

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.

Running Annual Average (RAA) — The arithmetic average, computed quarterly, of the latest four quarterly arithmetic averages of all samples collected by the water system.

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.

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



REGULATED SUBSTANCES

Inorganic Substances

SUBSTANCE (unit of measure)	MCLG	MCL	Highest Level Detected	Range Detected	SDWA Violation	Likely Source of Substance
Turbidity (NTU)	n/a	1 NTU	0.27 (W) 0.47 (OP)	0.06 – 0.27 (W) 0.07 – 0.47 (OP)	No (W and OP)	Turbidity is a measurement of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration process. It may be caused by soil runoff.
		and 95% of monthly samples or more equal to or less than 0.3 NTU	Lowest monthly % equal to or less than 0.3 NTU	100% (W) 100% – 99% (OP)	No (W and OP)	
			100% (W) 99% (OP)			
SUBSTANCE (unit of measure)	MCLG	MCL	Average Level Detected	Range Detected	SDWA Violation	Likely Source of Substance
Fluoride (ppm)	4	4	0.76 (W) 0.84 (OP)	0.05 – 1.08 (W) 0.05 – 1.19 (OP)	No (W and OP)	Erosion of natural deposits; water additive that promotes strong teeth.
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	< 3	0	No	Corrosion of household plumbing; erosion of natural deposits.
Copper* (ppb)	1300	< 200	< 200	0	No	Corrosion of household plumbing; erosion of natural deposits.

* Lead and copper results are from the latest required round of sampling in 2007. The next required round of sampling is on-schedule for 2010.

Volatile Organic Substances

SUBSTANCE (unit of measure)	MCLG	MCL	Highest Level Detected	Range Detected	SDWA Violation	Likely Source of Substance
Total Trihalomethanes (ppb)	n/a	RAA 80 ppb	57.2(D)†	22.0 – 97.0 at individual sampling sites	No	By-products of drinking water disinfection.
Haloacetic acids (ppb)	0	RAA 60 ppb	35 (D)†	11.3 – 66.6 at individual sampling sites	No	By-products of drinking water disinfection.

† In the above chart on Volatile Organic Substances, the “Highest Level Detected” represents the Running Annual Average of all sampling sites. The Running Annual Average is the calculation basis for the federal Maximum Contaminant Level for the substances. The “Range Detected” represents the range of detection at individual sampling sites.

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	< 1%	0% – < 1%	No	Naturally present in the environment.

Disinfectants

SUBSTANCE (unit of measure)	MRDLG	MRDL	Average Level Detected	Range Detected	SDWA Violation	Likely Source of Substance
Chlorine (ppm)	4	4	0.58	0.05 – 1.47	No	Water additive used for disinfection.

Disinfection By-Product Precursors

The percentage of Total Organic Carbon (TOC) removal was routinely monitored in 2008, and our water system met all TOC removal requirements set by the U.S. Environmental Protection Agency (USEPA). Total Organic Carbon has no health effects. However, Total Organic Carbon provides a medium for the formation of disinfection by-products. The by-products include trihalomethanes (THMs) and haloacetic acids (HAAs).

UNREGULATED SUBSTANCES FOR WHICH MONITORING IS REQUIRED

Unregulated contaminants are 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. Maximum Contaminant Level Goals (MCLGs) have not been established for all unregulated contaminants.

SUBSTANCE (unit of measure)	MCLG	MCL	Average Level Detected	Range Detected	Likely Source of Substance
Chloroform** (ppb)	n/a	Not Regulated	26.3 (W) 5.31 (OP)	One Sample Only (W) One Sample Only (OP)	Component of Total Trihalomethanes.
Bromodichloromethane** (ppb)	0	Not Regulated	6.60 (W) 0.80 (OP)	One Sample Only (W) One Sample Only (OP)	Component of Total Trihalomethanes.
Dibromochloromethane** (ppb)	60	Not Regulated	1.22 (W)	One Sample Only (W)	Component of Total Trihalomethanes.
Dibenzo(a,h)anthracene (ppb)	0	Not Regulated	<0.08 (OP)	<0.08 – 0.08	By-product of fossil fuel combustion.

** The U.S. Environmental Protection Agency does not regulate the above contaminants individually but does so as a part of the Total Trihalomethane Group, which has a Maximum Contaminant Level (MCL) of 80 parts per billion (ppb).

ADDITIONAL WATER QUALITY INFORMATION FOR CALENDAR YEAR 2008

(Not Required in Consumer Confidence Report/Annual Water Quality Report)

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	0.1	0.04 – 0.2
Chloride	ppm	250	4	3 – 7
Iron	ppm	0.3	0.01	0.006 – 0.026
Manganese	ppm	0.05	0.01	0.00 – 0.17
Silver	ppm	0.1	< 0.005	All < 0.005
Sulfate	ppm	250	18	10 – 34
Total Dissolved Solids	ppm	500	34	25 – 53
Zinc	ppm	5	< 0.5	All < 0.5
Hydronium (pH)	SU	6.5 – 8.5	7.8	7.3 – 8.3

Unregulated Physical & Chemical Parameters

Parameter	Unit of Measure	Average Value	Range of Values
Alkalinity (Phenolphthalein)	ppm	0	All 0
Alkalinity (Total)	ppm	10	6 – 18
Calcium	ppm	6.1	4.6 – 8.4
Conductivity	µmho/cm	61	49 – 86
Hardness	grains/gallon	1.5	1.2 – 1.9
Magnesium	ppm	1.13	0.85 – 1.50
Phosphate (Total)	ppm	0.58	0.37 – 1.80
Potassium	ppm	0.76	0.44 – 1.86
Silica	ppm	1.03	0.44 – 1.31
Sodium	ppm	1.9	1.6 – 2.3
Sediment	ppm	< 0.5	< 0.5
Temperature	°F	70°	46° – 93°

DEFINITIONS

Grain — Measurement of mass. One gram is equal to 15.4 Grains. One Grain per gallon equals 17 parts per million.

Secondary Maximum Contaminant Level (SMCL) — Aesthetic standard recommended; not required.

Standard pH Unit (SU) — Measurement of acidity or alkalinity of water.

Threshold Odor Number (TON) — Measurement designed to effectively measure odor, regardless of origin.

µmho/cm — Micromhos per centimeter.

Central Arkansas Water
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Little Rock, AR 72203

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2008 ANNUAL WATER QUALITY REPORT

COMPLIANCE PERIOD *January 1, 2008, through December 31, 2008*



Central Arkansas Water is the supplier of drinking water for one in every seven Arkansans. This responsibility emphasizes the importance of our ensuring quality and reliability in service. The 280 employees and 7-member Board of Commissioners of CAW are pleased to present your 2008 Water Quality Report. The report includes information about the quality and sources of your drinking water. We encourage you to review this year's report and to contact us at 501.210.4914 or 501.377.1229, if you have comments or questions. You also may E-mail us at customerservice@carkw.com. We appreciate you as our customer.

Graham W. Rich, P.E.
Chief Executive Officer

IMPORTANTE: Se establece que para el año 2008, la calidad de agua, provista en relacion a los trabajos efectuados por Central Arkansas Water (Agua de Arkansas Central), es apta para el consumo y se encuentra dentro de los parametros establecidos por las regulaciones tanto del gobierno federal como del gobierno estatal. El presente documento contiene informacion importante sobre el agua para consumo y sobre el suministro publico del agua. Si usted no habla ingles, sirvase contactar a una persona que pueda traducirle esta informacion.



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

Central Arkansas Water 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
Sharon Sweeney, Water Quality Specialist	501.210.4914
Gary Hum, Director of Source & Treatment	501.223.1577
Marie A. Crawford, Director of Communications	501.377.1229

CENTRAL ARKANSAS WATER'S 2008 ANNUAL WATER QUALITY REPORT IS APPLICABLE ONLY TO HOMES, BUSINESSES, AND INDUSTRIES SERVED BY OUR PUBLIC DRINKING WATER SYSTEM.

PROUDLY PROVIDING 35 YEARS OF SAFE DRINKING WATER TO CENTRAL ARKANSAS

