



WATER QUALITY REPORT

2013

Refreshing water is essential to sustaining our lives and the environment around us. It is necessary for the simple, everyday activities of bathing, drinking, cooking, and even recreation. In addition, water is indispensable to the quality of life and economic vibrancy of our metropolitan community.

Central Arkansas Water works vigilantly and diligently to ensure the high quality of water service that customers enjoy today. Our primary focus is on sustaining the quality and quantity of this vital commodity for the future.



PROTECT



MONITOR



DISTRIBUTE



TREAT



ENJOY

PROVIDING EXCEPTIONAL VALUE WITH EVERY DROP



For more than a century, cities and communities in Central Arkansas have enjoyed a high quality of drinking water at an affordable price. From the pioneering filtration system at the Ozark Point Water Treatment Plant to modern-day, state-of-the-art treatment techniques, Central Arkansas Water's goals have always been the continual enhancement of water quality, protection of public health, and regulatory compliance.

WHAT'S IN YOUR 2013 WATER QUALITY REPORT?



Important information about the sources and quality of your drinking water

Over the last century, water quality regulations have become more stringent, the business of water treatment and delivery has become more complex, and our region has experienced tremendous population growth. Yet, Central Arkansas Water's (CAW) commitment has remained the same: quality, reliability, and affordability.



Results of tests that CAW and regulatory agencies conducted to make sure your drinking water is safe for consumption

This commitment requires securing the future water needs of our consumer population of 400,000 and extending the availability of our existing water sources through watershed management and conservation — both of which are formal initiatives that are currently under way.



Information on the steps that Central Arkansas Water is taking to protect your drinking water and the public health now and in the future

You are receiving this 2013 Water Quality Report in accordance with the Consumer Confidence Rule of the federal Safe Drinking Water Act (SDWA). This law of standards for public drinking water suppliers in the United States requires the protection of drinking water sources and the monitoring and treatment of drinking water to safeguard public health.

The Consumer Confidence Rule of the SDWA mandates that you receive by July 1 of each year an annual report on your drinking water. The report specifically must contain information about the quality of your drinking water, the sources of your drinking water, and CAW's compliance with federal and state drinking water standards.

The initial enactment of the SDWA was in 1974 by the U.S. Congress. The current regulations require that public water suppliers, such as CAW, sample and analyze for specific contaminants and limit the concentration of those contaminants which may be present in the finished drinking water.

The federally-regulated contaminants range from lead and copper to coliform bacteria and disinfection by-products. As an added measure, we monitor for other potential contaminants that, while not regulated, have been found in some drinking water supplies in the United States. This emerging group of unregulated contaminants includes pharmaceuticals and industrial chemicals.





Our Water Sources

Central Arkansas Water receives its supply from two surface water sources, Lake Maumelle in Pulaski County and Lake Winona in Saline County. Both lakes can supply water to Jackson Reservoir, a regulating reservoir located within the Little Rock city limits at Reservoir Park. 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 pre-oxidation, flash mixing, coagulation/flocculation, sedimentation, and disinfection.

Source Water Assessment Statement

The Arkansas Department of Health has completed a Source Water Vulnerability Assessment for Central Arkansas Water. 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. Based on the various criteria of the assessment, our water sources have been determined to have a medium to high susceptibility to contamination. You may request a summary of the Source Water Vulnerability Assessment from our office.

Multiple Layers of Protection

Central Arkansas Water utilizes a multi-barrier approach to ensure safe drinking water for our customers. The strategy of safeguards begins at the source with watershed management to protect the quality of water in our sources, Lake Maumelle and Lake Winona. Other safeguards include treatment and disinfection, the training and certification of personnel responsible for the water supply, cross-connection control/backflow prevention to maintain quality in the distribution system, and testing at the customer's tap for certain contaminants.

Lake Maumelle Watershed Management

Extensive research shows that assuring the highest quality of water begins at the source, and CAW is leading water utilities across the nation in watershed management and protection. Our Board of Commissioners in 2007 adopted the Lake Maumelle Watershed Management Plan. The plan followed an extensive study that identified comprehensive and proactive measures to safeguard against potential pollution sources in the watershed of the lake.

The strategies include:

- Prohibition of wastewater discharges into the watershed
- Erosion and sediment control guidelines for new development in the watershed
- Required "set aside" of undeveloped land in the watershed
- Required purchase of at least 1,500 additional acres in the watershed by CAW
- Active management of the 10,220 acres of CAW-owned lands within the watershed and allowances for low-non-impact public and recreational uses
- Expanded water quality monitoring

To date, CAW has worked with several regulatory and governmental entities to address all of the above strategies, including work with Pulaski County Government on the final component, the Lake Maumelle Watershed Zoning Code. The Zoning Code, adopted in 2013, will implement the strategy of requiring the "set aside" of undeveloped land, as identified in the 2007 Watershed Management Plan.

Underscoring the importance of protecting our sources, CAW dedicated a budget of over \$2 million to the Watershed Management Program in 2013.

A primary objective of the Lake Maumelle Watershed Management Plan is to ensure that as land development occurs, it is in a manner that maintains the high water quality of Lake Maumelle, protects our drinking water, and ensures the continued viability of the lake as our primary water source for generations to come.



About Drinking 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.

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.

In order to assure tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) has regulations which limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 USEPA Safe Drinking Water Hotline at 1-800-426-4791.

Information for Vulnerable Populations

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 small amounts of contamination.

These people should seek advice about drinking water from their health care providers. 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. In addition, EPA/CDC guidelines on appropriate means to lessen the risk of infection by microbiological contaminants are also available from the Safe Drinking Water Hotline.

About Cryptosporidium

Cryptosporidium parvum is a microbial contaminant linked to animal and human wastes. The contaminant is fairly common in the untreated water of surface sources (lakes and rivers). Quarterly monitoring for *Cryptosporidium* in the untreated source water and the treated water supplied to your tap began in 1994. Of the 205 samples collected over the past 19 years, there have been only two detections of *Cryptosporidium* in

Water Quality Terms

Action Level (AL)

The concentration of a contaminant which – if exceeded – triggers treatment or other requirements which a drinking water system must follow.

Disinfection By Products (DBPs)

Contaminants that are formed during the water treatment process by the combination of chlorine with organic compounds from sources such as decomposed leaves, pine needles, and wood. DBPs are classified as probable carcinogens and are regulated by the USEPA under the SDWA.

Maximum Contaminant Level Goal (MCLG)

This is an unenforceable public health 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.

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 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.

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.



Water Quality Terms (continued)

Micromhos per centimeter ($\mu\text{mho/cm}$)

Measurement of conductivity.

Nephelometric Turbidity Unit (NTU)

A unit of measurement for the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Not Applicable (N/A)

Does not apply.

Parts per billion (ppb)

A unit of measurement for detected levels of contaminants in drinking water. One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per million (ppm)

A unit of measurement for detected levels of contaminants in drinking water. 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.

SU – Standard pH Unit

TON – Threshold Odor Number

Treatment Technique (TT)

A required process intended to reduce the level of a contaminant in drinking water.

WTP – Water Treatment Plant

CAW's untreated source water. Cryptosporidium has never been detected in the treated water supplied to your tap by Central Arkansas Water. To date, there have been no known cases of Cryptosporidiosis (the disease caused by Cryptosporidium) attributed to Central Arkansas Water's drinking water.

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. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing.

Central Arkansas Water 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>.

Public Participation

If you are interested in learning more about your public water supplier, there are various opportunities to do so. Our 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 January 1 to December 31, 2013. We have not listed numerous substances for which we monitored but did not have a detectable level. 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.

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.

Chlorine Dioxide Technology

In late 2013, Central Arkansas Water began adding Chlorine Dioxide as part of its treatment process in order to meet new stringent federal regulations for Disinfection By Products (DBPs). CAW evaluated different oxidants that would reduce the amount of regulated DBPs that are created through our normal treatment process and selected Chlorine Dioxide because of its effectiveness. As a result, the utility now has the capability to significantly reduce regulated DBPs. The use of Chlorine Dioxide will allow CAW to continue to produce high quality drinking water for our consumers.

Central Arkansas Water 2013 CCR Data Tables

MICROBIOLOGICAL CONTAMINANTS						
Contaminant	Violation Y/N	Level Detected	Unit	MCLG (Public Health Goal)	MCL (Allowable Level)	Major Sources in Drinking Water
Total Coliform Bacteria	N	Highest monthly percentage of positive samples: 1.4%	Present	0	Presence of Coliform bacteria in 5% of monthly samples	Naturally present in the environment

TURBIDITY						
Contaminant	Violation Y/N	Level Detected	Unit	MCLG (Public Health Goal)	MCL (Allowable Level)	Major Sources in Drinking Water
Turbidity (Ozark Point WTP)	N	Highest yearly sample result: 0.29 Lowest monthly % of samples meeting the turbidity limit: 100%	NTU	NA	At no time can turbidity go higher than 1 NTU, and samples for turbidity must be ≤ 0.3 NTU in at least 95 % of the samples in any month	Soil runoff
Turbidity (Jack Wilson WTP)	N	Highest yearly sample result: 0.16 Lowest monthly % of samples meeting the turbidity limit: 100%				
♦ Turbidity is a measurement of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.						

INORGANIC CONTAMINANTS						
Contaminants	Violation Y/N	Levels Detected	Unit	MCLG (Public Health Goal)	MCL (Allowable Level)	Major Sources in Drinking Water
Fluoride (Ozark Point WTP)	N	Highest Running Annual Average: 0.72 Range: 0.56 – 0.86	ppm	4	4	Erosion of natural deposits; water additive; and discharge from fertilizer plants
Fluoride (Jack Wilson WTP)	N	Highest Running Annual Average: 0.66 Range: 0.60 – 0.73				

LEAD AND COPPER TAP MONITORING					
Contaminants	Number of Sites over Action Level	90 th Percentile Result	Unit	Action Level	Major Sources in Drinking Water
Lead	1	0.004	ppm	0.015	Corrosion from household plumbing systems; erosion of natural deposits
Copper	1	<0.20	ppm	1.3	
♦ We are currently on a reduced monitoring schedule and are required to sample once every three years for lead and copper at the customers' taps. The results above are from our last monitoring period in 2013. Our next required monitoring period is in 2016.					

TOTAL ORGANIC CARBON

♦ The percentage of Total Organic Carbon (TOC) removal was routinely monitored in 2013, and all TOC removal requirements set by USEPA were met. 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						
Disinfectant	Violation Y/N	Level Detected	Unit	MRDLG (Public Health Goal)	MRDL (Allowable Level)	Major Sources in Drinking Water
Chlorine	N	Average: 0.58 Range: 0.04 – 1.42	ppm	4	4	Water additive used to control microbes

BY-PRODUCTS OF DRINKING WATER DISINFECTION						
Contaminants	Violation Y/N	Levels Detected	Unit	MCLG (Public Health Goal)	MCL (Allowable Level)	
HAA5 [Haloacetic Acids]	N	Highest Running 12 Month Average: 29.9 Range: 14.1 – 47.9	ppb	0	60	
TTHM [Total Trihalomethanes]	N	Highest Running 12 Month Average: 51.0 Range: 10.6 – 137.0	ppb	NA	80	
Chlorite	N	0	ppb	800	1000	
♦ While only the upper end of the range for TTHMs exceeded the MCL, it should be noted that 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 systems, and may have an increased risk of getting cancer.						
♦ In order to meet the requirements of the Stage 2 DDBPR, we were granted an extension until April 1, 2014. This allowed us to make capital improvements to our water system to ensure compliance with the TTHM and HAA5 MCL's.						

UNREGULATED CONTAMINANTS				
Contaminants (Both WTPs)	Levels Detected	Unit	MCLG (Public Health Goal)	Major Sources in Drinking Water
Chloroform (Ozark Point WTP)	4.03	ppb	70	By-products of drinking water disinfection
Chloroform (Jack Wilson WTP)	15.9	ppb	70	
Bromodichloromethane (Ozark Point WTP)	0.78	ppb	0	
Bromodichloromethane (Jack Wilson WTP)	4.26	ppb	0	
Dibromochloromethane (Jack Wilson WTP)	0.71	ppb	60	
<p>◆ 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.</p>				

Additional Water Quality Information
For Calendar Year 2013

SECONDARY STANDARDS				
Physical Parameters	Unit of Measure	SMCL	Level Detected (OP)	Level Detected (W)
Apparent Color	Color Units	15	0	0
Threshold Odor	TON	3	0	0

SECONDARY STANDARDS				
Inorganic Chemicals	Unit of Measure	SMCL	Level Detected (OP)	Level Detected (W)
Aluminum	ppm	0.05 – 0.2	0.21	<0.05
Chloride	ppm	250	2.9	3.8
Iron	ppm	0.3	<0.05	<0.05
Manganese	ppm	0.05	0.01	0.005
Silver	ppm	0.1	<0.005	<0.005
Sulfate	ppm	250	11.8	10.1
Total Dissolved Solids	ppm	500	40	43
Zinc	ppm	5	<0.05	0.07
pH	SU	6.5 – 8.5	Average Value 7.6	Average Value 8.0

UNREGULATED PHYSICAL & CHEMICAL PARAMETERS			
Parameter	Unit of Measure	Level Detected (OP)	Level Detected (W)
Alkalinity (Phenolphthalein)	ppm	0	0
Alkalinity (Total)	ppm	8	9
Calcium	ppm	5.69	4.72
Conductivity	µmho/cm	65	62
Hardness	grains/gallon	1.1	0.9
Magnesium	ppm	<1.00	1.05
Potassium	ppm	<1.00	<1.00
Sodium	ppm	2.86	2.71
Sediment	ppm	<0.5	< 0.5



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

Central Arkansas Water WATER QUALITY REPORT 2013 COMPLIANCE PERIOD January 1, 2013 through December 31, 2013



Central Arkansas Water is pleased to report that for the year of 2013, we were in compliance with federal and state regulations for drinking water quality. This 2013 Water Quality Report contains important information about the quality and sources of your drinking water. We hope you will take a few minutes to review the report and

learn more about the water you drink.

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

Board of Commissioners

- Marie-Bernarde Miller, Chair
- Eddie Powell, Vice Chair
- Roby Robertson, PhD, Secretary/Treasurer
- Tony Kendall, Member
- Jay Hartman, Member
- Carmen Smith, Member
- John Braune, Member

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

Central Arkansas Water	U.S. Environmental Protection Agency
221 East Capitol Avenue	Safe Drinking Water Hotline
P.O. Box 1789	1.800.426.4791
Little Rock, AR 72203	

Sharon Sweeney, Water Quality Specialist	501.210.4914
Randy Easley, Director of Water Quality and Operations	501.210.4935

IMPORTANTE: Se establece que para el año 2013, 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. En Julio este infome seria disponible en Espanol en nuestro Centro del Servicio al Cliente, 221 East Capitol Avenue en Little Rock.

