

2009 Annual Drinking Water Quality Report

CARTHAGE WATER AND ELECTRIC

MO5010142

This report is intended to provide you with important information about your drinking water and the efforts made to provide safe drinking water.

Attencion!

Este informe contiene información muy importante. Tradúscalo o prequentele a alguien que lo entienda bien.

We're pleased to present to you this year's Annual Quality Water 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.

What is the source of our water?

The sources of drinking water, both tap 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 radioactive material and can pick up substances resulting from the presence of animals or from human activity. Our water source is ground water. We have 14 deep wells that range in depth from 1000 ft. to 1868 feet deep at various locations in and around the city.

The Department of Natural Resources conducted a source water assessment to determine the susceptibility of our source water to contamination. The final assessment will not be completed until late this year, but you can review the preliminary results on the internet at <http://maps.cares.missouri.edu/maproom/SwipMaps/index.html>.

Why are there contaminants in my water?

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 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.

Contaminants that may be present in source water include:

- A. Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B. Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming.
- C. Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- D. 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 storm water runoff, and septic systems.
- E. Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure tap water is safe to drink, the Department of Natural Resources prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Department of Health regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Is our water system meeting other rules that govern our operations?

The Missouri Department of Natural Resources regulates our water system and requires us to test our water on a regular basis to ensure its safety. Our system has been assigned the identification number MO5010142 for the purposes of tracking our test results. Last year we tested for a variety of contaminants. The detectable results of

these tests are on the following pages of this report. Any violations of the state requirements or standards will be further explained later in this report.

How might I become actively involved?

If you would like to observe the decision making process that affects drinking water quality or if you have any further questions about your drinking water report, please call us at 417-237-7300 to inquire about scheduled meetings or contact persons.

Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer that are 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 microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Contaminants Report

Carthage Water and Electric routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1 to December 31, 2009. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk.

DEFINITIONS:

MCLG: Maximum Contaminant Level Goal, or 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.

MCL: Maximum Contaminant Level, or 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.

AL: Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.

TT: Treatment Technique, or a required process intended to reduce the level of a contaminant in drinking water.

90th percentile: For lead and Copper testing. 10% of test results are above this level and 90% are below this level.

LEVEL FOUND: is the average of all test results for a particular contaminant.

RANGE of DETECTIONS: Shows the lowest and highest levels found during a testing period, if only one sample was taken, then this number equals the Level Found.

MRLDG: Maximum Residual Disinfectant Level Goal, or the level of a drinking water disinfectant below which there is no known or expected risk to health.

MRLD: Maximum Residual Disinfectant Level, or the highest level of a disinfectant allowed in drinking water.

ABBREVIATION:

PPB: parts per billion or micrograms per liter.

ppm: parts per million or milligrams per liter.

NTU: Nephelometric Turbidity Unit, used to measure cloudiness in drinking water.

MFL: million fibers per liter, used to measure asbestos concentration.

nd: not detectable at testing limits.

The State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Records marked with *, though representative, are more than one year old.

Regulated Contaminants

<u>Regulated Contaminants</u>	<u>Units</u>	<u>MCL</u>	<u>MCLG</u>	<u>Level Found</u>	<u>Range of Detection</u>	<u>Violation</u>	<u>Collection Date</u>
Barium	ppm	2	2	0.0663	0.0391-0.0663	No	1/29/2007
Typical Sources	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits						
Fluoride	ppm	4	4	1.16	0.16-1.16	No	2/12/2007
Typical Sources	Natural deposits; Water additive which promotes strong teeth						
Nitrate+Nitrite (ASN)	ppm	10	10	0.8	0.8	No	8/6/2009
Typical Sources	Runoff from fertilizer use; Leaching from septic tanks; Erosion of natural deposits.						
<u>Disinfection Byproducts</u>	<u>RAA</u>	<u>MCL</u>	<u>MCLG</u>	<u>Level Found</u>	<u>Range of Detection</u>	<u>Violation</u>	<u>Collection Date</u>
No Detected Results Were Found in the Calendar Year of 2008							
<u>Microbiological</u>	<u>Units</u>	<u>MCL</u>	<u>MCLG</u>	<u>Highest Value</u>	<u>Range of Detection</u>	<u>Violation</u>	<u>Collection Date</u>
No Detected Results Were Found in the Calendar Year of 2008							
<u>Radionulides</u>	<u>Units</u>	<u>MCL</u>	<u>MCLG</u>	<u>Highest Value</u>	<u>Range of Detection</u>	<u>Violation</u>	<u>Collection Date</u>
Combined Radium Level RA226 and RA228	pCi/L	15		1.8	1.8	No	10/27/2003
Typical Sources	Erosion of natural deposits						
	<u>Units</u>	<u>Action Level</u>	<u>90th percentile</u>	<u>Range</u>	<u>Sites Exceeding AL</u>	<u>Collection Period</u>	
Copper	ppm	AL=1.3	0.0822	0.00406-0.192	0	2008 - 2010	
Typical Sources	Corrosion of household plumbing systems						
Lead	ppb	AL=15	3.9	1.03 - 9.36	0	2008 - 2010	
Typical Sources	Corrosion of household plumbing systems						

Contaminants Report Continued

Unregulated Contaminants Notice

Our water system participated in the Unregulated Contaminant monitoring required by the Environmental Protection Agency (EPA). This special monitoring helps EPA decide if new contaminants of concern are found in drinking water at levels that need to be controlled. We did not detect any of these unregulated contaminants in our water. If you want to review the individual results of the monitoring, please contact us at the phone number listed under "How might I become actively involved?"

Unregulated Contaminants

Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Information on all the contaminants that were monitored for, whether regulated or unregulated, can be obtained from this water System or the Department of Natural Resources.

Violations and Health Effects Information

There were no MCL, Monitoring, or treatment technique violations for 2008

Optional Monitoring (not required by EPA)

<u>Secondary Contaminants</u>	<u>Sample Year</u>	<u>Unit</u>	<u>Level Found</u>	<u>Range</u>	<u>Unit</u>	<u>MCL</u>	<u>MCLG</u>
Alkalinity Total	1/29/2007	ppm	142	122-142	MG/L		
Calcium	1/29/2007	ppm	39.5	31.7-39.5	MG/L		
Chloride	1/29/2007	ppm	30.4	27.9-30.4	MG/L	250	
Hardness, Carbonate	1/29/2007	ppm	168	153-168	MG/L		
Iron	1/29/2007	ppb	0.07	0.07	MG/L	0.3	
Magnesium	1/29/2007	ppb	18	16.8-18	MG/L		
Manganese	1/29/2007	ppb	0.00672	0.00672	MG/L	0.05	
pH	1/29/2007		8.11	8.07-8.11	PH	8.5	
Potassium	1/29/2007	ppm	2.18	2.15-2.1	MG/L		
Sodium	1/29/2007	ppm	17.3	12.9-17.3	MG/L		20
Solids, Total Dissolved (TDS)	1/29/2007	ppm	233	194-233	MG/L	500	
Sulfate	1/29/2007	ppm	34.3	29.2-34.3	MG/L	200	
Zinc	1/29/2007	ppb	0.012	0.00242-0.012	MG/L	5	

Please call our office if you have questions. 237-7300

We at Carthage Water and Electric work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.