

# *2007 Annual Drinking Water Quality Report*

## *The Water We Drink*

### *City of Carl Junction, Missouri*

#### *MO5010138 & MO5036006*

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. Our water source is divided into two separate systems. Four wells serve the City of Carl Junction, and four wells serve Briarbrook Subdivision, Oscie Ora Acres, and Country Club Estates. All eight wells are located within Carl Junction City Limits.

The Department of Natural Resources conducted an assessment of our source water to determine its susceptibility to contamination. All surface water sources are vulnerable to land use activities within their watershed. This is why all surface water in Missouri must be treated in dual treatment trains with barriers in place for potential microbiological and chemical contaminations. The assessment is a delineation of our watershed(s) and an inventory of the potential contaminations found within the water shed(s). The assessment of ground water sources is a three-step process of identifying an area around our wellhead(s), inventorying potential sources of contaminants within that area (a one-half mile radius around the wellhead(s)) and a look at the adequacy of well construction. The ground water assessment can be used to develop a wellhead protection program to protect this valuable resource. If you want to know more about the assessment or wish to participate on a watershed protection team to protect this valuable resource, then please call 417-649-7237.

This report shows our water quality and what it means.

If you have any questions about this report or concerning your water utility, please contact Mike Moss 417/649-7237. 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 first and third Tuesday of each month at 7:00 p.m. at the Carl Junction City Hall.

The City of Carl Junction 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 1<sup>st</sup> to December 31<sup>st</sup>, 2007. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

**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.

*Picocuries per liter (pCi/L)* - picocuries per liter is a measure of the radioactivity in water.

*Action Level* - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

*Treatment Technique (TT)* - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

*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.

*Missouri Department of Natural Resources* – State of Missouri regulatory agency that oversees the monitoring and regulation of public drinking water systems.

# Source Water Analysis For Carl Junction's Wells

## Regulated Contaminants

Regulated Contaminants	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
Barium	1/25/2007	0.143	0.117-0.143	ppm	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	1/25/2007	0.76	0.21-0.76	ppm	4	4	Natural deposits; Water additive which promotes strong teeth
Xylenes	1/25/2007	0.0014	0.0014	ppm	10	10	Discharge from petroleum factories; Discharge from chemical factories

Disinfection by Products	Monitoring Period	RAA	Range	Unit	MCL	MCLG	Typical Source
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No Detected Results were Found in the Calendar Year of 2007

Lead and Copper	Date	90 <sup>th</sup> Percentile	Range	Unit	AL	Sites Over AL	Typical Source
Copper	2005-2007	0.0286	0.00316-0.0384	ppm	1.3	O	Corrosion of household plumbing systems
Lead	2005-2007	6.4	1.02-6.53	ppb	15	O	Corrosion of household plumbing systems

Microbiological	Result				MCL	MCLG	Typical Source
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No Detected Results were Found in the Calendar Year of 2007

Radionuclides	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
Gross Alpha Particle Activity, Total	8/3/2006	11.2	5.6-11.2	pCi/l	15		Erosion of natural deposits
Radium, Combined (226, 228)	8/3/2006	2.8	1.8-2.8	pCi/l	5		Erosion of natural deposits
Radium-226	8/3/2006	2.8	1.8-2.8	pCi/l	5	0	

### Violations & Health Effects Information

The MCL for total coliform is determined by the number of samples taken per month. Systems that collect less than 40 samples per month are in violation if more than one sample tests positive. Systems that collect more than 40 samples per month are in violation if 5% or more of the samples test positive.

There were no MCL, Monitoring, or treatment technique violations during the last year.

## Source Water Analysis For Briarbrook Subdivision/Oscie Ora Acres/ Country Club Estates

### Regulated Contaminants

Regulated Contaminants	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
Barium	7/19/2007	0.135	0.135	ppm	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium	7/19/2007	1.09	1.09	ppb	100	100	Discharge from steel and pulp mills
Fluoride	12/14/2007	0.7	0.49-0.7	ppm	4.0	4	Natural deposits; Water additive which promotes strong teeth

Disinfection by Products	Monitoring Period	RAA	Range	Unit	MCL	MCLG	Typical Source
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No Detected Results were Found in the Calendar Year of 2007

Lead and Copper	Date	90 <sup>th</sup> Percentile	Range	Unit	AL	Sites Over AL	Typical Source
Copper	2002-2010	0.0182	0.00518-0.0211	ppm	1.3	O	Corrosion of household plumbing systems
Lead	2002-2010	1.3	1.32-1.51	ppb	15	O	Corrosion of household plumbing systems

Microbiological	Result				MCL	MCLG	Typical Source
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No Detected Results were Found in the Calendar Year of 2007

Radionuclides	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
Gross Alpha Particle Activity, Total	1/15/2007	8.5	4.9-8.5	pCi/l	15		Erosion of natural deposits
Gross Alpha, Including RA, excluding RN & U	4/18/2006	14.5	14.5	pCi/l	15	0	Erosion of natural deposits
Radium, Combined (226, 228)	1/15/2007	3.1	1.9-3.1	pCi/l	5		Erosion of natural deposits
Radium-226	1/15/2007	3.1	1.9-3.1	pCi/l	5	0	
Radium-228	1/15/2007	0.8	0.8	pCi/l	5	0	
Uranium, Combined	4/18/2006	1.2	1.2	Ug/l	30		Erosion of natural deposits

## **Violations & Health Effects Information**

The MCL for total coliform is determined by the number of samples taken per month. Systems that collect less than 40 samples per month are in violation if more than one sample tests positive. Systems that collect more than 40 samples per month are in violation if 5% or more of the samples test positive.

**There were no MCL, Monitoring, or treatment technique violations during the last year.**

What does this mean?

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or is man made. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. 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.

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. Contaminants that may be present in source water include:

1. Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
2. 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.
3. Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
4. 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.
5. Radioactive contaminants, 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 Missouri Department of Natural Resources prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Missouri Department of Health regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding.

### ***A Word About Immuno-compromised Person***

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).

Please call our office if you have questions. We at the City of Carl Junction 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.

**CITY OF CARL JUNCTION**  
P.O. BOX 447  
CARL JUNCTION MO 64834

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