

# **CHILLICOTHE**<sub>MO2010162</sub>

## 2007 Annual Water Quality Report

*(Consumer Confidence Report)*

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

Este informe contiene información muy importante. Tradúscalo o pregúntele a alguien que lo entienda bien. [translated: This report contains very important information. Translate or ask someone who understands this very well.]

### ***What is the source of my water?***

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater 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 comes from the following source(s): 5 Ground Water wells located in the Grand River Flood Plain**

The Department of Natural Resources conducted an assessment of our water to determine its susceptibility to contamination. The assessment is a three - step process of identifying an area around our well heads, inventorying potential sources of contaminants within that area ( a one-half mile radius around the well heads ) and a look at the adequacy of well construction. The 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 660 - 646 - 0562.

### ***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 that 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 (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 that 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 it's safety. Our system has been assigned the identification number MO2010162 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 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 affect drinking water quality or if you have any further questions about your drinking water report, please call Randy Hamilton at 646 - 0562. To inquire about scheduled meetings or contact persons call 646 - 1683.

### ***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 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).

# CHILLICOTHE<sub>MO2010162</sub>

## 2007 Annual Water Quality Report

*(Consumer Confidence Report)*

### *Contaminants Report*

**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 one number will be reported.

**Abbreviations**

PPB: parts per billion or micrograms per liter · ppm: parts per million or milligrams per liter · n/a: not applicable · 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>Inorganic</u>	<i>Units</i>	<i>MCL</i>	<i>MCLG</i>	<i>Level Found</i>	<i>Range of Detections</i>	<i>Violation</i>	<i>Sample Year</i>
Barium, Dissolved *	ppbm	2000		22.4	22.4	No	2005

**Sources:** Discharge of drilling waste; Discharge from metal refineries; Erosion of natural deposits.

Chromium	ppb	100	100	2.24	2.24	No	2005
----------	-----	-----	-----	------	------	----	------

**Sources:** Discharge from steel and pulp mills; Erosion of natural deposits

Fluoride	ppm	4	4	0.920	0.78 - 1.04	No	2007
----------	-----	---	---	-------	-------------	----	------

**Sources:** Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.

Nitrate + Nitrite as N	ppm	10	10	0.050	0.05	No	2007
------------------------	-----	----	----	-------	------	----	------

**Sources:** Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

<u>Volatile Organics</u>	<i>Units</i>	<i>MCL</i>	<i>MCLG</i>	<i>Level Found</i>	<i>Range of Detections</i>	<i>Violation</i>	<i>Sample Year</i>
Total Haloacetic Acids (HAA5)	ppb	60	0	< 13.5000	<13.50	No	2007

**Sources:** By - product of drinking water chlorination.

Total Trihalomethanes (TTHM)	ppb	80	n/a	28.6000	28.6	No	2007
------------------------------	-----	----	-----	---------	------	----	------

**Sources:** By - product of drinking water chlorination.

# ***CHILLICOTHE*** MO2010162

## 2007 Annual Water Quality Report

*(Consumer Confidence Report)*

### *Gross Alpha Particles*

<i>Units</i>	<i>MCL</i>	<i>Level Found</i>	<i>Range of Detection</i>	<i>Sample Year</i>
PCi/L	15	1.300	1.3	2004

*Sources:* Erosion of natural deposits.

### *Copper*

<i>Collection Period</i>	<i>Units</i>	<i>Action Level</i>	<i>90th Percentile</i>	<i>Sites exceeding AL</i>
6/12/2007 - 6/15/2007	mg/l	AL 1.3	0.0455	0

**Sources:** Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.

### *Lead*

<i>Collection Period</i>	<i>Units</i>	<i>Action Level</i>	<i>90th Percentile</i>	<i>Sites exceeding AL</i>
6/12/2007 - 6/15/2007	ppb	15	1.28	0

**Sources:** Corrosion of household plumbing systems; Erosion of natural deposits.

### *Coliform*

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.

<i># POSITIVE</i>	<i>% POSITIVE</i>	<i>MONTH</i>	<i>VIOLATION</i>	<i>Sample Year</i>
0	0	NO	2007	

**Sources:** Naturally present in the environment.

**CHILLICOTHE**<sub>MO2010162</sub>  
**2007 Annual Water Quality Report**  
*(Consumer Confidence Report)*

*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.*

<b>Inorganic</b>	<b>Units</b>	<b>Level Found</b>	<b>Range of Detections</b>	<b>Sample Year</b>
Nickel	ppb	<1	<1	2005

**Radon**

*Radon is a naturally occurring gas present in soil and most ground waters in Missouri. Radon in home indoor air comes mainly from infiltration from soil in contact with foundations, slabs, and basement walls. EPA recommends that indoor air levels not exceed 4 pCi/L (picocuries per liter). EPA uses a conversion factor of 10,000 to 1 to determine indoor air contribution from water (see figured below). Radon poses a risk for lung cancer (estimated at 160 deaths/year nationally from drinking water, 85% of these in smokers), and stomach cancer (5 deaths annually). However, experts are not sure exactly what the cancer risk is from a given level of radon in drinking water. If you are concerned about radon in your home, tests are available to determine the exact levels. Call your local health department for details.*

<b>Units</b>	<b>Level Found</b>	<b>Range of detections</b>	<b>Indoor Air Contribution</b>
PCi/L	14.100	14.1	0.0014

***CHILLICOTHE***<sub>MO2010162</sub>  
2007 Annual Water Quality Report  
*(Consumer Confidence Report)*

*Violations and Health Effects Information*

**There were no MCL, Monitoring, or treatment technique violations for this report.**

# 2007 Annual Water Quality Report

## (Consumer Confidence Report)

### *Optional Monitoring (not required by EPA)*

#### Optional

*Monitoring is not required for optional contaminants.*

<b>Inorganic</b>	<b>Units</b>	<b>Level Found</b>	<b>Range of Detections</b>	<b>Sample Year</b>
Alkalinity, CaCO <sub>3</sub> Stability	ppm	113	113	2005
Aluminum	ppb	37.8	37.8	2005
Calcium	ppm	17.7	17.7	2005
Carbon, Total Organic (TOC)	ppm	1.2588	0.77 - 1.74	1999
Chloride	ppm	25.0	25.0	2005
Hardness, Total as (CaCO <sub>3</sub> )	ppm	107	107	2005
Iron, Dissolved	ppb	20.0	20.0	2005
Magnesium	ppm	15.3	15.3	2005
Manganese	ppb	2.76	2.76	2005
PH		8.05	8.05	2005
Potassium	ppm	1.74	1.74	2005
Sodium	ppm	36.6	36.6	2005
Total Dissolved Solids (TDS)	ppm	255	255	2005
Sulfate	ppm	80.2	80.2	2005

<b>Volatile Organic</b>	<b>Units</b>	<b>Level Found</b>	<b>Range of Detections</b>	<b>Sample Year</b>
Bromochloroacetic Acid	ppb	4.03	4.03	2007
Bromodichloromethane	ppb	9.04	9.04	2007
Bromoform	ppb	2.71	2.71	2007
Chloroform	ppb	7.74	7.74	2007
Dibromoacetic Acid	ppb	3.12	3.12	2007
Dichloroacetic Acid	ppb	4.53	4.53	2007