



Public Water Supply District #9 of Boone County

We're pleased to present to you this year's Annual Water Quality Report For Year 2009

Dated: June 2010

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.

Atencion! Este informe contiene información muy importante. Tradúscalo o pregúntele a alguien que lo entienda bien.

We want you to understand the efforts we continually make to improve the water treatment process and protect our water resources. 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 (573) 474-9521 to inquire about scheduled meetings or contact persons. We are committed to ensuring the quality of your water. Our water source is ground water from four wells. The wells are set at various depths in rock formations. We have a Source Water protection plan available from our office that provides more information.

In addition, the Department of Natural Resources has also conducted a source water assessment to determine the susceptibility of our source water to potential contaminates. This process involved the establishment of source water delineations for each well and then a contaminate inventory was performed within those delineated areas to assess potential threats to each source. Assessment maps and summary information sheets are available on the internet at <http://maproom.missouri.edu/swipmaps/pwssid.htm>. To access the maps for your water system you will need the State assigned identification code, which is printed at the top of this report.

The Source Water Inventory Project maps and information sheets provide a foundation upon which a more comprehensive source water protection plan can be developed.

Our water comes from: Ground Water - Wells

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 pickup substances resulting from the presence of animals or from human activity.

PWSD #9 of Boone County routinely monitors for constituents in your drinking water according to Federal and State laws. 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 MO3024058. The following tables show the results of our monitoring for the period of January 1 to December 31, 2009. All drinking water, including bottled 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.

You will find listed below definitions for unfamiliar terms and abbreviations found in the following tables.

Source Water Analysis on Wells of PWSD #9 of Boone County

Constituent	Collection Date	Highest Value	Unit of Measure	MCL	MCLG	Violation	Typical Source
REGULATED CONSTITUENTS (Inorganic)							
Barium	2/24/2009	0.115 Range 0.0325-0.115	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	2/24/2009	1.35 Range 0.42-1.35	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth, discharge from fertilizer and aluminum factories
Chromium	2/24/2009	4.39 Range 3.66-4.39	ppb	100	100	No	Discharge from steel and pulp mills

Constituent	Date	Unit of Measure	90th Percentile	MCL	Sites Over AL	Typical Source
COPPER & LEAD SAMPLINGS						
Copper *	2008-2010	ppm	0.148 Range 0.0255-0.154	AL = 13	0	Corrosion of household plumbing systems; leaching from wood preservatives; erosion of natural deposits
Lead *	2008-2010	ppb	5.6 Range 1.43-7.45	AL= 15	0	Corrosion of household plumbing systems, erosion of natural deposits

Microbiological	Results	MCL	MCLG	Typical Source
Coliform, Total (TCR)	0 samples returned as positive	Systems that collect less than 40 samples per month -- no more than 1 positive monthly sample	0	Naturally present in the environment; used as an indicator that potentially harmful bacteria may be present

AL (Action Level) - The concentration of a contaminant which, when exceeded, triggers treatment of other requirements which a water system must follow

Level Found - The average of all test results for a particular contaminant

MCL (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

MCLG (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 of health. MCLGs allow for a margin of safety.

MFL - Million fibers per liter, used to measure asbestos concentration

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

MRDL - Maximum Residual Disinfection Level, or the highest level of a disinfectant allowed in drinking water

N/A - Not applicable **ND** - Not detectable at testing limits

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

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

ppb (Parts per billion) or (Micrograms per liter) - one part per billion corresponds to one minute in 2,000 years

ppm (Parts per million) or (Milligrams per liter) mg/l one part per million corresponds to one minute in two years

ptg/l (Parts per trillion) -one part per trillion corresponds to one second in 32,000 years

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.

RAA -Running annual average

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

90th Percentile -For lead and copper testing. 10 percent of results are above this level and 90 percent are below.

If present elevated levels of **lead** can cause serious 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. PWSD #9 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 drinking 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](http://www.epa.gov/safewater/lead) or at <http://www.epa.gov/safewater/lead>

The state has reduced monitoring requirements for certain contaminants to less 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.

If you have any questions about this report or concerning your water quality please contact Roger Ballew at (573) 474-9521.

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 third Tuesday of each month at 7:30 p.m. at the District office located at 391 North Rangeline Road

Violations and Health Effect Information

The District has NO Violations

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.

The violation related with Harg Well and the exceedance in radionuclide emitters that the District has been reporting the last few years has been corrected. The District worked closely with MoDNR and USGS to study and find a remedy for the situation. Simply put, it was found that we could isolate the section of the aquifer that was producing the high levels of radionuclide emitters by plugging that section of the well shaft with concrete. The results have been successful. The tests since the well was plugged on 7/9/2008 have all been below the MCL.

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 effects.



Constituent	Collection Date	Highest Value	Unit of Measure	MCL	MCLG
Optional Monitoring -not required by EPA					
Alkalinity, total	2/24/2009	336 Range 278-336	MG/L		
Calcium	2/24/2009	65.5 Range 60.4-65.5	MG/L		
Chloride	2/24/2009	62.5 Range 8.41-65.2	MG/L	250	
Hardness, Carbonate	2/24/2009	285 Range 254.285	MG/L		
Iron	2/24/2009	19.6 Range 9.22-19.6	UG/L	300	
Magnesium	2/24/2009	31.2 Range 22.6-31.2	MG/L		
Manganese	2/24/2009	3.17 Range 1.74-3.17	UG/L	50	
PH	2/24/2009	7.58 Range 7.31-7.58	PH	8.5	
Potassium	2/24/2009	8.75 Range 3.15-8.75	MG/L		
Sodium	2/24/2009	38.8 Range 25.6-38.8	MG/L	20000	
Solids, total dissolved (TDS)	2/24/2009	413 Range 356-413	MG/L	500	
Sulfate	2/24/2009	29.6 Range 19.5-29.6	MG/L		
Zinc	2/2/2009	3.83 Range 2.00-3.83	UG/L	5000	

Why are there contaminates in my water?

As you can see by the tables, we have learned through our monitoring and testing that some constituents have been detected. 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**.

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 system
5. Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

REGULATED CONSTITUENTS						
Constituent	Monitoring Period	RAA	Unit of Measure	MCL	MCLG	Violation
Total THM (Trihalo-methanes)	2009	2.88395 Range 2.1-4.44	ppb	80	0	No
Total HAA5 (Haloacetic Acids)	2009	<8.1 Range <8.1	ppb	60	0	No

Constituent	Collection Date	Highest Value	Unit of Measure	MCL	Violation	Typical Source
Uranium Combined*	1/16/2008	1.7 Range 1.7	µg/l	30	No	Erosion of natural deposits

RADIONUCLIDE						
Constituent	Collection Date	Highest Level	Unit of Measure	MCL	Violation	Typical Source
Gross Alpha Particles/eclu Radon & U	4/6/2009	7.4 Range 5.1-7.4	pCi/L	15	No	Erosion of natural deposits
Combined Radium Level RA226 & RA228	10/5/2009	1.8 Range 1.6-1.8	pCi/L	5	No	Erosion of natural deposits
Gross Beta Particle* Activity	2/27/2008	10.2 Range 7.4-10.2	pCi/l	4		Decay of natural & man-made deposits

A Word About Immuno-compromised Persons

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, persons who have 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).