

Water Quality Report 2008

**Marshall Municipal
Utilities**

Water Quality Report 2008

Published April 2009

MMU Customers

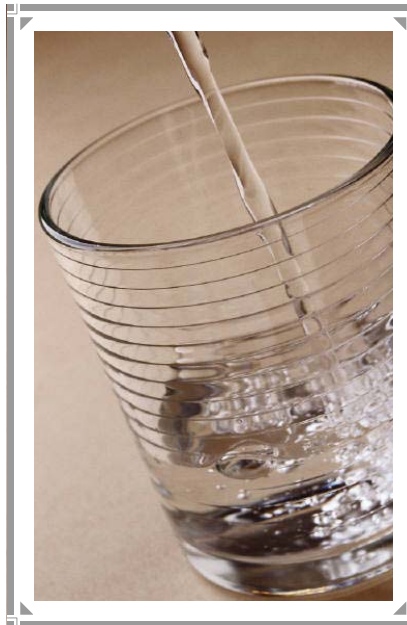
Once again, we are pleased to provide you with information on your drinking water supply.

We encourage public interest and participation in our community's decisions affecting your drinking water. Informed customers are our best allies in providing safe and sufficient drinking water. Regular Board of Public Works meetings are held at 8:30 a.m. in the MMU office, 75 E. Morgan. Upcoming dates for 2009 are:

April 14	April 28	May 12
May 26	June 9	June 30
July 14	July 28	August 11
September 1	September 15	September 29
October 13	October 27	November 10
December 1	December 15	December 29

Board of Public Works members are—

Chuck Hird, President
Mike Mills, Vice President
Jim Heinzler, Secretary
Spencer Fricke, Member



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Water Source and Treatment

Marshall's water comes from ten wells that draw water from the Missouri River alluvium in the Malta Bend area. The wells range in depth from 120 to 147 feet. The water quality is very good; however, it does contain calcium and magnesium, which cause "hard" or soap-consuming water. Iron is present also in levels that could cause laundry staining. The first treatment step aerates the

water to remove the iron, and the second adds lime to soften the water. Fluoride is added to help prevent dental cavities, and chlorine is added to disinfect and to protect against contamination in the distribution system.

A Department of Natural Resources-conducted source water assessment for the MMU water system looked at the potential for contami-

nation of MMU's wells. The assessment shows no known source of contamination within one mile of the well field. A copy of the assessment is available from MMU. Contact the MMU office at 660-886-6966.



Water—It's Everywhere!

Informe contiene informacion importante sobre la calidad del agua en su comunidad. Traduzcalo o hable con alguien que lo entienda bien.

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The following table shows the results of our water-quality analyses. Every regulated contaminant that the laboratories detected in the drinking water, even in the very smallest amounts, is listed. The table lists the name of each substance, the highest level allowed by regulation, the ideal goal for public health, the amount detected, the possible sources of the substance, a key to units of measure, and footnotes with additional details.

Substance	MCLG	MCL	Unit	Date	Result/ Average	Range	Major Source
<i>Regulated at the Treatment Plant</i>							
Barium	2	2	ppm		0.044	NA	Erosion of natural deposits.
Fluoride	4	4	ppm		1.06	0.88 - 1.18	Erosion of natural deposits; water additive which promotes strong teeth.
Nitrate	10	10	ppm		≤ 0.12	NA	Erosion of natural deposits
Nitrate + nitrite	10	10	ppm		0.12	NA	Erosion of natural deposits.
<i>Regulated in the Distribution System</i>							
Haloacetic acids	NA	60	ppb		24.1	12.9 - 38.3	By-product of drinking water disinfection.
Total trihalomethanes	NA	80	ppb		54.8	15.3 - 73.6	By-product of drinking water disinfection.
	MRDLG	MRDL	Unit	Date	Average	Range	Major Source
Chlorine	4	4.0	ppm		1.36	0.53 - 2.15	Water additive used to control microbes.
<i>Regulated at the Customer's Tap</i>							
	MCLG	MCL	Unit	Date	90th Per- centile	Number exceeding the AL	Major Source
Copper	1.3	AL=1.3	ppm	2007	.081	0	Corrosion of household plumbing systems; erosion of natural deposits.
Lead	0	AL=15	ppb	2007	5.20	1	Corrosion of household plumbing systems; erosion of natural deposits.
<i>Unregulated Contaminants</i>							
Calcium	NA	NA	ppm		19.5	NA	
Magnesium	NA	NA	ppm		17.9	NA	
Potassium	NA	NA	ppm		3.47	NA	
Sodium	NA	NA	ppm		23.0	NA	

All samples, except chlorine, were analyzed by the Department of Natural Resources' laboratory or by a certified laboratory under contract to DNR. Chlorine is analyzed onsite by MMU personnel.



Abbreviations:

AL - Action level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL - Maximum contaminant level - 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 technology.

MCLG - Maximum contaminant level 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.

MRDL - Maximum residual disinfection level - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG - Maximum residual disinfection level goal - 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.

NA - Not applicable

ND - No detect - The contaminant was below the laboratory's detection limit.

ppb - Parts per billion - Concentration, also referred to as micrograms per liter ($\mu\text{g/l}$).

ppm - Parts per million - Concentration, also referred to as milligrams per liter (mg/l).

Additional Health Information

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, 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:

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 storm water 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 storm water runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and also can

come from gas stations, urban storm water 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 ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, reasonably may be expected to contain at least small amounts of some contaminants. The presence of contaminants does not indicate that water poses a health risk. More information about contaminants can be obtained by calling EPA's Safe Drinking Water Hotline (1-800-426-4791).

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 (Centers for Disease Control) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

We will be happy to answer any questions about MMU and your water quality. Call Ginny Ismay at 660-595-2417 or 886-6966. For additional information on MMU, please visit our web site at www.mmumo.net. Water quality data for community water systems in the United States is available on the Internet at www.waterdata.com.

Kyle Gibbs
General Manager
75 E. Morgan
Marshall, Missouri 65340
Phone: 660-886-6966
Fax: 660-886-6724
Email: mmu@mmumo.net

Providing hometown reliability



We're on the Web!
www.mmumo.net

Special Monitoring

In September 1999, EPA issued a rule requiring monitoring for contaminants to determine how frequently they might occur in drinking water. This was done to determine if rules need to be written to regulate these contaminants in drinking water. In January 2007, EPA revised the rule to require testing for another group of contaminants. MMU collected a set of samples in October 2008 and will collect a second set in April 2009. The contaminants and the results for the October 2008 samples are:

- *Insecticides*
 - Dimethoate
 - Terbufos sulfone
- *Flame Retardants*
 - 2,2',4,4'-tetrabromodiphenyl ether (BDE-47)
 - 2,2',4,4',5-pentabromodiphenyl ether (BDE-99)
 - 2,2',4,4',5,5'-hexabromodiphenyl ether (BDE-153)
 - 2,2',4,4',6-pentabromodiphenyl ether (BDE-100)
 - 2,2',4,4',5,5'-hexabromobiphenyl ether (HBB)
- *Explosives*
 - 2,4,6-trinitrotoluene (TNT)
 - 1,3-dinitrobenzene
 - Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)

There was no detect of any of the above in MMU's drinking water. This spring's sample results will be reported in next year's *Water Quality Report*, and the results of both sets will be posted on MMU's website.

Lead and Copper Monitoring

- Lead is a naturally-occurring metal that for most of the 20th century was used regularly as a component of paint, piping (including water service lines), solder, brass, and until the 1980s, as a gasoline additive. Lead is no longer used in many of these products, but older products - such as paints and plumbing fixtures in older houses - that contain lead remain. EPA and CDC report that lead paint (and the contaminated dust and soil that it generates) is the leading source of lead exposure in older housing.
- While lead is rarely present in water coming from a water treatment plant, it can enter tap water through corrosion of some plumbing materials.
- A number of aggressive and successful steps have been taken in recent years to reduce the occurrence of lead in drinking water:
 - In 1986, Congress amended

the national Safe Drinking Water Act to prohibit the use of pipe, solder, or flux containing high lead levels.

- The Lead Contamination Control Act of 1988 led schools and daycare centers to repair or remove water coolers with lead-lined tanks. EPA provided guidance to inform and facilitate their action.
- Community water systems, such as MMU, conduct routine monitoring at selected houses. The results of the most recent monitoring are on page 2.
- If present, 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. MMU 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 www.epa.gov/safewater/lead.