

Substances That Could Be in Water

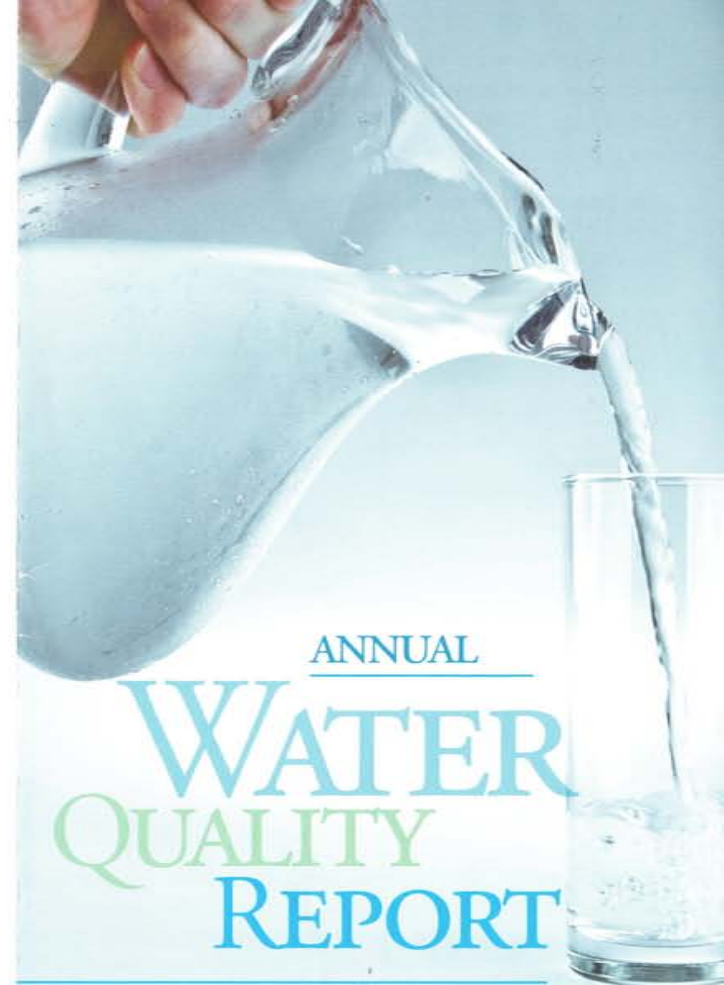
To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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 can acquire naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife; Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 stormwater runoff, and residential uses; Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems; and Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

McPherson Board of Public Utilities
401 West Kansas Avenue
McPherson, KS 67460

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ANNUAL WATER QUALITY REPORT

Water testing performed in 2010

Presented By _____
McPherson Board of Public Utilities

PWS ID#: KS2011309

Quality First

Once again we are proud to present our annual water quality report. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. The Board of Public Utilities (BPU) serves nearly 8,500 water customers in our service area, including four rural water districts. This water quality report, which is provided to you as part of the Safe Drinking Water Act Amendment of 1996, describes the quality of your drinking water.

The BPU continues to maintain a safe drinking water supply for our customers while planning for the future needs of our community. We hope the information provided in this report will be informative and helpful.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their healthcare providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or www.epa.gov/safewater/hotline/.

Where Does My Water Come From?

An underground aquifer called the Equus Beds is the only source of McPherson's water supply. The aquifer underlies portions of a four-county area, which is about 900,000 acres in size, and generally flows from the northwest to the southeast. Water is drawn from 12 underground wells located in and around McPherson.

Water quality reports for previous years can be accessed at the BPU website: www.mcgbpu.com. The BPU, in partnership with the Kansas Department of Health & Environment (KDHE), has completed a source water assessment of our water supply, which can be viewed at www.kdheks.gov/nps/swap/swreports.html.

“THOUSANDS HAVE LIVED WITHOUT LOVE, NOT ONE WITHOUT WATER.”

-W.H. Auden

Water Conservation

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.

Turn off the tap when brushing your teeth.

Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.

Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.

Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Community Participation

Board meetings occur bi-monthly at the BPU Administrative Office and are open for public attendance.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent, according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at www.nrdc.org/water/drinking/bw/exesum.asp.

Questions?

For more information about this report, or for any questions relating to your drinking water, please contact the General Manager's office at 401 West Kansas Avenue in McPherson, or phone us at (620) 245-2525.

The tables below list all of the drinking water contaminants that were detected during the reporting period. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. The U.S. EPA or the State of Kansas requires the utility to monitor for certain contaminants less often than once per year because the concentrations of these contaminants do not change frequently. Consequently, some of the data represented here is more than one year old.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2010	15	0	4	NA	No	Erosion of natural deposits
Arsenic ¹ (ppb)	2008	10	0	5.7	3.3–5.7	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Atrazine (ppb)	2008	3	3	0.16	ND–0.16	No	Runoff from herbicide used on row crops
Barium (ppm)	2008	2	2	0.26	0.13–0.26	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (ppb)	2008	100	100	5.0	2.3–5.0	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm)	2009	4	4	0.21	0.1–0.21	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2010	60	NA	4.0	NA	No	By-product of drinking water disinfection
Nitrate ² (ppm)	2010	10	10	8.4	0.87–8.4	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	2008	50	50	11.0	5.7–11.0	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
TTHMs [Total Trihalomethanes] (ppb)	2010	80	NA	21.7	NA	No	By-product of drinking water disinfection
Tetrachloroethylene (ppb)	2010	5	0	2.4	1.1–2.4	No	Discharge from factories and dry cleaners
Total Coliform Bacteria (# positive samples)	2010	1-positive monthly sample	0	0	NA	No	Naturally present in the environment

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2008	1.3	1.3	1.2	3/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2008	15	0	5	1/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	IDEAL LIMIT FOR TASTE & ODOR	HIGHEST AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE	
Alkalinity, Total (ppm)	2008	300	315	250–315	No	Naturally occurring	
Calcium (ppm)	2008	200	170	93–170	No	Naturally occurring	
Chloride (ppm)	2008	250	160	31–160	No	Runoff/leaching from natural deposits	
Conductivity (µS/cm)	2008	1,500	1,100	600–1,100	No	Substances that form ions when in water	
Corrosivity (Units)	2008	Noncorrosive	1.2	0.21–1.2	No	Natural or industrially influenced balance of hydrogen, carbon and oxygen in the water; Affected by temperature and other factors	
Hardness, Total [as CaCO ₃] (ppm)	2008	400	480	270–480	No	Naturally occurring	
Iron (ppb)	2008	300	24.0	ND–24.0	No	Leaching from natural deposits; Industrial wastes	
Magnesium (ppm)	2008	150	15.0	8.7–15.0	No	Naturally occurring	
Manganese (ppb)	2008	50	1.4	ND–1.4	No	Leaching from natural deposits	
Nickel (ppb)	2008	100	3.5	1.9–3.5	No	Naturally occurring	
pH (Units)	2008	6.5–8.5	8.1	7.3–8.1	No	Naturally occurring	
Phosphorous, Total (ppm)	2008	5	0.044	0.020–0.044	No	Naturally occurring; component in cleaning products	
Potassium (ppm)	2008	100	2.7	2.2–2.7	No	Naturally occurring; Found in water softeners	
Silica (ppm)	2008	50	39	31–39	No	Naturally occurring as sand, quartz, sandstone, and granite	
Sodium (ppm)	2008	100	27	16–27	No	Naturally occurring; Component of water softeners	
Sulfate (ppm)	2008	250	41	15–41	No	Runoff/leaching from natural deposits; Industrial wastes	
Total Dissolved Solids [TDS] (ppm)	2008	500	630	350–630	No	Runoff/leaching from natural deposits	
Zinc (ppm)	2008	5	0.018	ND–0.018	No	Runoff/leaching from natural deposits; Industrial wastes	

¹While your drinking water meets the U.S. EPA's standard for arsenic, it does contain low levels of arsenic. The U.S. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

²Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your healthcare provider.

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

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 treatment 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 Disinfectant 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 Disinfectant 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 (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).



Why do I get this report each year?

Community water system operators are required by Federal law to provide their customers an annual water quality report. The report helps people make informed choices about the water they drink. It lets people know what contaminants, if any, are in their drinking water and how these contaminants may affect their health. It also gives the system operators a chance to tell customers what it takes to deliver safe drinking water.

How hard is my water?

Customers often inquire about the hardness of our water. Water hardness is related to the amount of calcium, magnesium, or iron minerals in the water. The more of these minerals, the harder the water. The water consumed by our customers ranges from 15–28 grains per gallon, or about 270–480 ppm of hardness.

How much water is used during a typical shower?

The Federal Energy Policy Act set a nationwide regulation that limits shower heads to a maximum flow of 2.5 gallons per minute (GPM). Shower heads made before 1980 are rated at 5 GPM. Since the average shower is estimated to last 8.2 minutes, the old shower heads use 41 gallons of water while the newer, low-flow shower heads use only about 21 gallons.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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.