

The cover features a blue background with a pattern of water droplets. A large, semi-transparent light blue circle is centered on the page, containing the title text. At the bottom, a close-up photograph of a chrome faucet with a single water drop falling from it is visible.

*Annual*  
**WATER**  
**QUALITY**  
**REPORT**

*Reporting Year 2012*

*Presented By* \_\_\_\_\_  
Board of Public Utilities

PWS ID#: KS2011309

## Meeting Your Water Needs

We are pleased to present our annual Water Quality Report. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users. 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.

### Community Participation

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

## 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.

## 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 dissolves 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;

**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.

## 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 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](http://www.epa.gov/safewater/lead).

## Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care 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 <http://water.epa.gov/drink/hotline>.

## Source Water Assessment

Water quality reports for previous years can be accessed at the BPU website: [www.mcpbpu.com](http://www.mcpbpu.com). The BPU, in partnership with the Kansas Department of Health & Environment (KDHE), has completed a source water assessment of our water supply. The results can be downloaded from <http://www.kdheks.gov/nps/swap/SWreports.html>.

## 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. Water is drawn from 12 underground wells located in and around the City of McPherson.

## 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. Contact may also be made by phone at (620) 245-2525 or on our website at [www.mcpbpu.com](http://www.mcpbpu.com).



## Naturally Occurring Bacteria

The simple fact is, bacteria and other microorganisms inhabit our world. They can be found all around us: in our food; on our skin; in our bodies; and, in the air, soil, and water. Some are harmful to us and some are not. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern because it indicates that the water may be contaminated with other organisms that can cause disease.

Throughout the year, we tested many water samples for coliform bacteria. In that time, none of the samples came back positive for the bacteria. Federal regulations now require that public water that tests positive for coliform bacteria must be further analyzed for fecal coliform bacteria. Fecal coliform are present only in human and animal waste. Because these bacteria can cause illness, it is unacceptable for fecal coliform to be present in water at any concentration. Our tests indicate no fecal coliform is present in our water.

## Fixtures with Green Stains

A green or blue-green stain on kitchen or bathroom fixtures is caused by tiny amounts of copper that dissolve in your home's copper plumbing system when the water sits unused overnight. Copper staining may be the result of a leaky faucet or a faulty toilet flush valve, so be sure your plumbing is in good working order.

Copper stains may also be caused by overly hot tap water. Generally speaking, you should maintain your water temperature at a maximum of 120 degrees Fahrenheit. You should consult the owner's manual for your heater or check with your plumber to determine your current heat setting. Lowering your water temperature will reduce the staining problem and save you money on your energy bill.

Also keep in mind that a tap that is used often throughout the day usually will not produce copper stains, so if you flush the tap for a minute or so before using the water for cooking or drinking, copper levels will be reduced.

## Copper Information

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

The Kansas Department of Health & Environment advised the BPU in October 2011 that the copper action level (AL) of the Lead and Copper rule had been exceeded for the monitoring period 2011-2013. What this means is that the water is active enough to slightly corrode copper piping. BPU's water system has very little copper, so the copper typically comes from the homeowners' plumbing. BPU has enlisted Burns and McDonnell Engineering Consultants to assist in determining the optimal corrosion control treatment process to address the elevated copper levels and plans to test a treatment process in 2013. The utility will continue to follow a course of action as designed by KDHE for monitoring copper levels.

## Sampling Results

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. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

### 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	4	No	Erosion of natural deposits
Arsenic (ppb)	2011	10	0	3.8	3.8	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2011	2	2	0.21	0.21	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (ppb)	2011	100	100	1.5	1.5	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm)	2011	4	4	0.19	0.19	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	2012	10	10	3.4	3.4	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	2011	50	50	9.8	9.8	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Total Coliform Bacteria (# positive samples)	No detected results were found in the calendar year of 2012						
TTHMs [Total Trihalomethanes] (ppb)	2012	80	NA	2.3	2.3	No	By-product of drinking water disinfection

### 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	EXCEEDANCE	TYPICAL SOURCE
Copper (ppm)	2011	1.3	1.3	1.6	8/30	Yes	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2011	15	0	5.3	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

## Definitions

**AL (Action Level):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which 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.

**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).

## SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	EXCEEDANCE	TYPICAL SOURCE
<b>Chloride</b> (ppm)	2011	250	NA	52	52	No	Runoff/leaching from natural deposits
<b>Corrosivity</b> (Units)	2011	Non-corrosive	NA	0.16	0.16	No	Natural or industrially influenced balance of hydrogen, carbon, and oxygen in the water; Affected by temperature and other factors
<b>Hardness, Total [as CaCO<sub>3</sub>]</b> (ppm)	2011	400	NA	330	330	No	Naturally occurring
<b>Magnesium</b> (ppm)	2011	150	NA	11.0	11.0	No	Naturally occurring
<b>Phosphorus, Total</b> (ppm)	2011	5	NA	0.038	0.038	No	Naturally occurring; Component in cleaning products
<b>Potassium</b> (ppm)	2011	100	NA	2.8	2.8	No	Naturally occurring; Found in water softeners
<b>Silica</b> (ppm)	2011	50	NA	34	34	No	Naturally occurring as sand, quartz, sandstone, and granite
<b>Sodium</b> (ppm)	2011	100	NA	23	23	No	Naturally occurring; Component of water softeners
<b>Sulfate</b> (ppm)	2011	250	NA	34	34	No	Runoff/leaching from natural deposits; Industrial wastes
<b>Total Dissolved Solids [TDS]</b> (ppm)	2011	500	NA	440	440	No	Runoff/leaching from natural deposits
<b>Zinc</b> (ppm)	2011	5	NA	0.011	0.011	No	Runoff/leaching from natural deposits; Industrial wastes