

In 2004 and 2005, the BPU removed two water wells from service due to elevated nitrate levels. In order to place these wells back in service, the BPU began construction of a Blending Plant in July, 2008. The Plant will bring the water from all 12 utility wells to one central location where wells with elevated nitrates will be "blended" with wells having lower nitrates, resulting in water with an acceptable nitrate level. The facility will consist of a 1.5 million gallon ground storage tank, pump station and chlorination facility. In order to connect the Blending Plant to the water wells and distribution system, 7,500 feet of new water line ranging in size from 12-inch to 24-inch will be installed. Because the Plant reduces the points of entry for supply water from 12 to 1, a 1-million gallon above ground storage tank is being added to the distribution system to support peak demands of water. All components of the system should be completed by early 2010 with an estimated cost of \$12,000,000.

The BPU continues to maintain a safe drinking water supply for our customers. We hope you find this report useful and informative.



Board of Public Utilities
P.O. Box 1008
McPherson, KS 67460

McPherson Board of Public Utilities



2008

WATER QUALITY REPORT

The tables represented 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 EPA or the State of Kansas requires the utility to monitor for certain contaminants less 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. The following is an explanation of the abbreviations and terms used in the water quality substance tables that are printed below.

AL - Action Level - The concentration of a contaminant that triggers treatment or other requirements that a water system must follow.

LI - Langelier Index A measure of the corrosiveness of water.

MCL - Maximum Contaminant Level Highest level of a contaminant allowed in drinking water

MCLG - Maximum Contaminant Level Goal The level of a contaminant in drinking water below which there is no known or expected risk to health.

ND - Non Detected

PCI/L - A measure of radioactivity in the water

PPM - One part per million. It is the same as milligrams per liter, mg/L

PPB - One part per billion. It is the same as micrograms per liter, ug/L

UMHO/CM - Micromhoes per centimeter. The measurement of water's ability to conduct electrical current

Regulated Substances

ORGANIC CHEMICALS

Substance	Year Tested	Units	MCL	MCLG	Highest Detected	Range Detected	Likely Source
Atrazine	2008	PPB	3	3	0.16	ND-0.16	Runoff from herbicide used on row crops
Tetrachloroethylene	2008	PPB	5	0	1.9	ND-1.9	Discharge from dry cleaner & factories
Total Trihalomethanes	2008	PPB	80	0	3.6		Byproduct of drinking water chlorination

INORGANIC CHEMICALS

Substance	Year Tested	Units	MCL	MCLG	Highest Detected	Range Detected	Likely Source
Arsenic	2008	PPB	10	Na	5.7	3.3-5.7	Erosion of natural deposits
Barium	2008	PPM	2	2	0.26	0.13-0.26	Erosion of natural deposits
Chromium	2008	PPB	100	100	5.0	2.3-5.0	Erosion of natural deposits
Combined Radium (Ra-226 Ra-288)	2006	PCI/L	5	0	1.1	ND-1.1	Erosion of natural deposits
Fluoride	2008	PPM	4	4	6.5	0.15-6.5	Erosion of natural deposits
Gross Alpha	2006	PCI/L	15	0	5	ND-5	Erosion of natural deposits
Nitrate (N)	2008	PPM	10	10	7.1	0.74-7.1	Fertilizer, sewage, septic tanks
Selenium	2008	PPB	50	50	11.0	5.7-11.0	Erosion of natural deposits
Lead	2008	PPB	AL-15	0	Note 1	ND-18	Corrosion of Household Plumbing
Copper	2008	PPB	AL=1.3	1300	Note 2	0.25-1.3	Corrosion of Household Plumbing

Note 1 - 90% of homes tested must have levels less than 15 ppm. BPU had 1 site above 15 ppm

Note 2 - 90% of homes tested must have levels less than 1.3 ppm. BPU found 3 sites at 1.3 ppm

MICROBIOLOGICAL ORGANISMS

Substance	Year Tested	MCL	Highest Detected	Range Detected	Likely Source
Total Coliform	2008	0	0	0	Bacterial Regrowth

Non Regulated Substances

The following table is a list of water mineral, nutrient and physical characteristics. These substances are not regulated, but the information is useful. The characteristics primarily affect the aesthetic qualities relating to the public acceptance of drinking water.

All of the listed substances are naturally occurring in the water supply. The EPA has not established a maximum contaminant level for non-regulated substances in drinking water.

MINERAL, NUTRIENT & PHYSICAL CHARACTERISTICS

Substance	Year Tested	Units	Highest Detected	Range Detected	Ideal Limit for Taste & Odor
Alkalinity as CaCO3	2008	PPM	315	250-315	60-300
Calcium	2008	PPM	170	93-170	75-200
Chloride	2008	PPM	160	31-160	250
Corrosivity	2008	LI	1.2	0.21-1.2	0.0-1.0
Iron	2008	PPB	24.0	ND-24.0	300
Manganese	2008	PPB	1.4	ND-1.4	50
Magnesium	2008	PPM	15.0	8.7-15.0	50-150
Nickel	2008	PPB	3.5	1.9-3.5	100
Potassium	2008	PPM	2.7	2.2-2.7	100
Silica	2008	PPM	39	31-39	50
Sodium	2008	PPM	27	16-27	100
Specific conductivity	2008	UMHO/CM	1100	600-1100	Less than 1500
Sulfate	2008	PPM	41	15-41	250
Total dissolved solids	2008	PPM	630	350-630	500
Total hardness	2008	PPM	480	270-480	400
Total hardness	2008	Grains Per Gallon	28	16-28	23
Total Phosphorus	2008	PPM	0.044	0.020-0.044	5
Zinc	2008	PPM	0.018	ND-0.018	5
pH	2008	PH UNITS	8.1	7.3-8.1	6.5-8.5

Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of teeth, and occurs only in developing teeth before they erupt from the gums.

In March, 2008, one of the BPU water wells tested in excess of the maximum contaminant level for fluoride. In light of previous test results, the test appears to be suspect and additional samples are being taken to verify the results.

Nitrates in drinking water at levels above 10 ppm is a health risk for infants of less than 6 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 health care provider.

Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

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 16-28 grains per gallon, or about 270-480 ppm of hardness.

Is your water safe to drink? Absolutely!

Federal and Kansas State regulations include procedures and schedules for monitoring water at the source, in the distribution system and at the tap. The Kansas Department of Health & Environment (KDHE) ensures that public water supply systems comply with all regulations, follow monitoring schedules, and report monitoring results. BPU employees, who are state certified, work each day to provide the highest quality water to the citizens of McPherson. Water samples are collected and analyzed by Kansas certified independent labs and the Kansas Department of Health & Environment. The BPU continues to maintain a safe drinking water supply for our customers.

The Board of Public Utilities serves nearly 8,500 water customers in our service area, including 4 rural water districts. This water quality report is provided to you as part of the Safe Drinking Water Act Amendment of 1996 and describes the quality of your drinking water and how the BPU complies with water regulations that protect your health.

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 the City of McPherson.

We want our customers to be informed

Water Quality Reports for previous years can be accessed at the BPU website 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 at www.kdhe.state.ks.us/nps.

We encourage our customers to stay abreast of information concerning the quality of the water they drink. If you have questions regarding this report, or your water utility, please contact the general manager's office at 400 E. Kansas Avenue in McPherson, or phone us at 620-245-2525. Board meetings occur bi-monthly at the McPherson Municipal Center and are open for public attendance.

As water travels over the land's surface or through the ground, it dissolves naturally occurring minerals and radioactive materials, and can be polluted by animals or human activity. 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency at 800-426-4791.

Additional 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 can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. In addition, the Safe Drinking Water Hotline offers guidelines from the EPA/Center for Disease Control on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants. For information, call EPA's toll free number at (800) 426-4791, or go to their web site at www.epa.gov/safewater.

Contaminants that may be present in source water before we treat it include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, 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 storm water run-off, agriculture, and residential users.

Radioactive contaminants, which can be naturally occurring or the result of mining activity.

Organic contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and also come from gas stations, urban storm water run-off, and septic systems.

If you have questions regarding water quality, call:

ENVIRONMENTAL PROTECTION AGENCY
SAFE DRINKING WATER HOTLINE
(800) 426-4791

KANSAS DEPARTMENT OF HEALTH & ENVIRONMENT
(785) 296-5500

BOARD OF PUBLIC UTILITIES
General Manager's Office
(620) 245-2525

BPU Customer Service
(620) 245-2515

24 Hour Emergency Number
(620) 245-2555

Is there lead and copper in my water?

Copper naturally occurs in source water at very low levels. Lead may leach from faucets or plumbing components containing lead, causing some homes and buildings to have elevated lead levels at the tap if water stands in pipes for several hours. Leaching may also occur if copper pipes are joined with lead based solder.

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. Your water system 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 <http://www.epa.gov/safewater/lead>.

Regulatory requirements for collection of lead and copper became effective in 1992. Because of the low levels of lead and copper found in our system, KDHE has placed us on a reduced monitoring frequency of once every three years. The most recent round of lead and copper testing was completed in 2008.