

**Have questions about drinking water quality? Call or log-on to these resources:**

Environmental Protection Agency  
Safe Drinking  
Water Hotline. . . . . (800) 426-4791  
Web site: [www.epa.gov/safewater](http://www.epa.gov/safewater)

Kansas Department of Health & Environment  
Bureau of Water . . . . . (785) 296-5500  
Web site: [www.kdhe.state.ks.us/water/](http://www.kdhe.state.ks.us/water/)

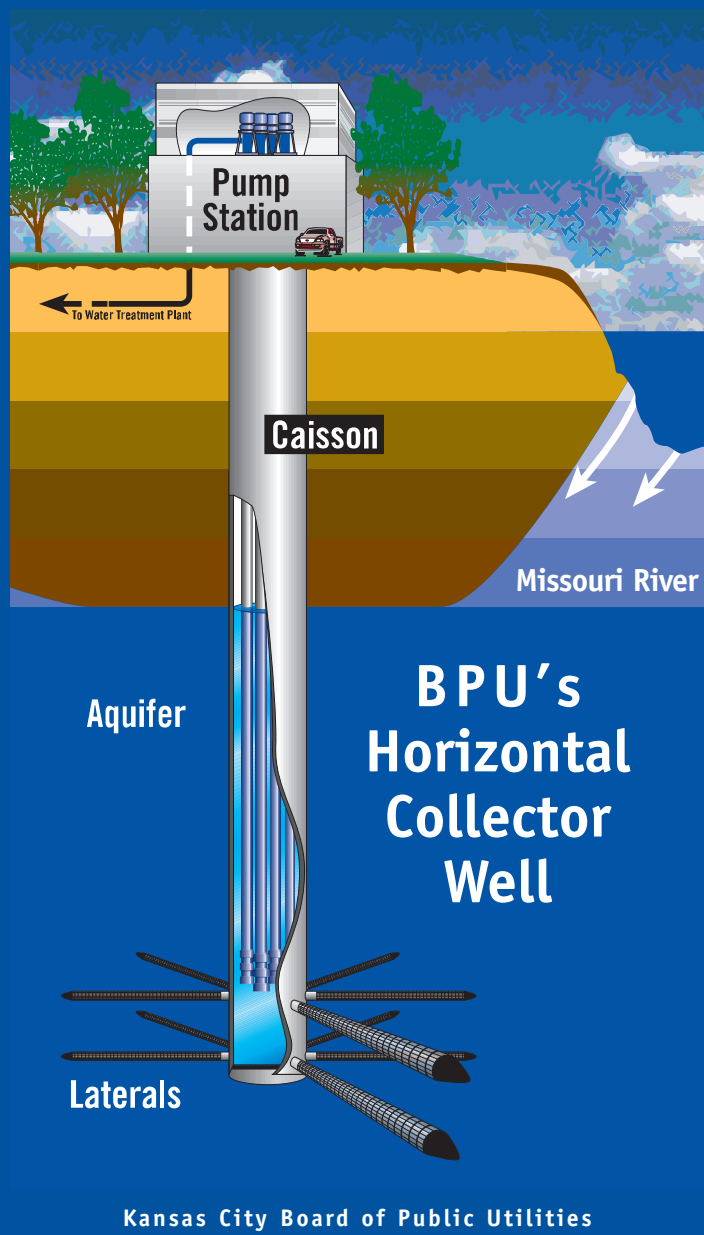
Kansas City Board of Public Utilities  
Laboratory Services  
Division . . . . . (913) 573-9280  
E-mail: [northcut@bpu.com](mailto:northcut@bpu.com)  
BPU Web site: [www.bpu.com](http://www.bpu.com)

Other helpful numbers at BPU:  
Customer Service (to turn service on or off, or for billing questions)  
7 a.m.-6 p.m., Monday-Friday. (913) 573-9190  
Water Trouble . . . . . (913) 573-9622

*Este informe contiene información muy importante sobre su agua beber. Tradúzcalo o hable con alguien que lo entienda bien. Te Board of Public Utilities está de acuerdo con todas las regulaciones gubernamentales para su agua.*

**Kansas City Board of Public Utilities**

540 Minnesota Ave.  
Kansas City, Kansas 66101  
(913) 573-9000  
[www.bpu.com](http://www.bpu.com)



Kansas City Board of Public Utilities

**2004**

**Water Quality**

**Report**



**Kansas City Board of Public Utilities**

**T**he picture on the cover shows BPU's horizontal collector well, which draws our water from underneath the Missouri River.

As water moves down through the earth, natural filtration occurs. The water eventually collects in an underground pool called an aquifer. This process reduces or eliminates suspended materials and potentially harmful organisms that may be present in the water.

The base of the collector well goes down approximately 100 feet below the surface of the river to collect water from the aquifer. There, powerful pumps draw the water through large well screens that are attached like spokes on a wheel. During pumping, water is drawn at an average rate of 28 million gallons per day, with peaks of up to 45 million gallons per day.

Water from the well is pumped and sent on to the Nearman Water Treatment Plant, where it is treated and tested. It is then distributed through underground pipes to homes and businesses.

**T**he Kansas City Board of Public Utilities serves nearly 53,000 water customers in our service area of approximately 152 square miles. This service area includes Kansas City, Kansas, Edwardsville, southern Leavenworth County, parts of Bonner Springs and a small section of northern Johnson County.

This report describes the quality of your drinking water and how the Kansas City Board of Public Utilities (BPU) complies with water regulations that protect your health.

This document also complies with the 1996 Safe Drinking Water Act, which requires water utilities to provide water quality information to customers every year.

*The bottom line:  
Does the Board of Public Utilities meet all federal and state regulations?  
**Absolutely.***

**We want our valued customers to be informed!**

**T**o learn more, visit our BPU Web site at [www.bpu.com](http://www.bpu.com), or go to the Environmental Protection Agency Web site at [www.epa.gov/safewater](http://www.epa.gov/safewater). Visitors are also welcome to attend our regularly scheduled Board meetings, usually held on the first and third Wednesday of each month at 6:00 p.m., at 540 Minnesota Avenue, Kansas City, Kansas. To confirm the exact date and time of the next meeting, call (913) 573-9144. For questions about BPU water quality, please call BPU's Laboratory Services Division at (913) 573-9280.

**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 organic and inorganic minerals, and may pick up radioactive material and substances resulting from animal or human activity.

Our water comes from the Missouri River watershed, which represents nearly one-sixth of the area of the continental United States. The Missouri River carries runoff from predominantly rural, non-industrialized regions. Our water is collected and filtered through a horizontal collector well in an aquifer below the Missouri River. (See the cover picture and explanation.)

Before this "raw" water turns into drinking water, it is cleaned, treated, and tested at BPU's Nearman Water

Treatment Plant. The plant opened in 2000, and offers the latest treatment and technology methods available. Once it meets or surpasses all regulations, the water is then distributed through underground pipes to homes and businesses.

BPU also has water interconnections with Kansas City, Missouri, and Johnson County Water District No. 1 (WaterOne). Both of these water systems also use the Missouri River as their water supply source.

Under the 1996 amendments to the Safe Drinking Water Act, each state is required to develop a Source Water Assessment Program (SWAP). A source water assessment is a study and report that provides basic information about the source water used to provide drinking water. An assessment of our source water has been completed. For the results of the assessment please contact us, or you can download the results at [www.kdhe.state.ks.us/nps](http://www.kdhe.state.ks.us/nps). This is the Web site of the Kansas Department of Health & Environment (KDHE).

**Is your water safe to drink?**

**F**ederal and state regulations include procedures and schedules to monitor water from the source to the tap. KDHE assures that the state's public water systems comply with all regulations, follow monitoring schedules and report results. Certified by the State of Kansas, BPU's laboratory monitors the physical, chemical and microbiological characteristics of our water. Also, the Operating Staff members of the Nearman Water Treatment Plant are state-certified by KDHE.

While your drinking water meets the EPA's standard for lead, more than 5% of samples tested contained lead above the action level. Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap water for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

**BPU's Laboratory Services Division** monitors water quality as it leaves the treatment plant and also at the customer's tap to assure that the quality has not changed. Currently there are 1,200 regular sampling

sites distributed widely around our community. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health as tap water.

**We do not take water for granted!**

**T**o produce the highest quality water for our customers, we subject it to rigorous treatment to assure that sediment, harmful bacteria, protozoan parasites, and certain minerals are removed. We test our water using sophisticated equipment and scientifically advanced procedures.

**Are Cryptosporidium and Giardia in my tap water?**

**T**hese organisms have never been found in our treated water. BPU's water treatment process uses multiple barriers to prevent the risk of these protozoan parasites being found in your finished water.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as individuals with cancer undergoing chemotherapy, persons who have undergone an organ transplant, people with HIV/AIDS or other immune system disorders, and some elderly persons 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/Centers 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](http://www.epa.gov/safewater).

**Regulations for public water systems**

**T**he Board of Public Utilities routinely monitors for contaminants in your drinking water. The following tables show monitoring results for the period of January 1 to December 31, 2003. All drinking water, including bottled drinking 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. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791, or go to their Web site at [www.epa.gov/safewater](http://www.epa.gov/safewater).

**B**elow are explanations of the abbreviations and terms used in the water quality analyses results shown in the Regulated Substance Tables.

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

**Langelier Saturation Index (LSI)** – a measure of the corrosiveness of water.

**Maximum Contaminant Level Goal (MCLG)** – 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.

**Maximum Contaminant Level (MCL)** – the highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLG as feasible, using the best available treatment technology.

**Maximum Residual Disinfectant Level (MRDL)** – the highest level of a disinfectant allowed in drinking water.

**Maximum Residual Disinfectant Level Goal (MRDLG)** – the level of a disinfectant in drinking water below which there is no known or expected risk to health. MRDLGs allow for a margin of safety.

**Nephelometric Turbidity Unit (NTU)** – a measure of the clarity of water. Turbidity in excess of 5 NTUs is just noticeable to the average person.

**Non-Detect (ND)** – laboratory analysis indicates that the contaminant is not detected with present technology.

**Parts per Million (ppm)** – one part per million corresponds to one minute in two years, or one grain of salt in six ounces of tomato juice. It is the same as milligrams per liter, mg/L.

**Parts per Billion (ppb)** – one part per billion corresponds to one minute in 2,000 years, or one grain of salt in 55 gallons of tomato juice. It is the same as micrograms per liter, µg/L.

**Picocuries per Liter (pCi/L)** – picocuries per liter is a measure of the radioactivity in water.

**Treatment Technique (TT)** – a treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

**Organic Chemicals** include synthetics and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban runoff, and septic systems.

**Inorganic Chemicals** include salts and metals, which can be naturally occurring or result from urban runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

**Microbiological Organisms** include viruses, bacteria and protozoans, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

**Radionuclides** occur naturally in mineral deposits or they can be man-made. They may emit photon, beta or alpha radiation.

## Non-Regulated Substances

**E**PA has not established a maximum contaminant level for non-regulated substances in drinking water. Water utilities are required to list the substances below, but they are not considered to pose a health risk.

## Non-Regulated Substances Tables

Non-Regulated Organics			
Substance	Units	Highest Detected	Range Detected
Chloroform	ppb	18	7.9-18
Bromodichloromethane	ppb	14	7.1-14
Chlorodibromomethane	ppb	6.8	2.9-6.8
Bromoform	ppb	1.3	<0.50-1.3
Monochloroacetic acid	ppb	2.9	<2.0-2.9
Dichloroacetic acid	ppb	11	5.9-11
Trichloroacetic acid	ppb	9.5	5.1-9.5
Monobromoacetic acid	ppb	1.2	<1.0-1.2
Dibromoacetic acid	ppb	1.8	<1.0-1.8
Tribromoacetic acid	ppb	<4.0	<4.0
Bromochloroacetic acid	ppb	5.7	3.5-5.7
Bromodichloroacetic acid	ppb	8.5	5.7-8.5
Chlorodibromoacetic acid	ppb	4.9	2.0-4.9

## Regulated Substance Tables

Organic Chemicals						
Substance	Units	MCL	MCLG	Highest Detected	Range Detected	Likely Source
TTHM (Total Trihalomethanes)	ppb	80	N/A	29 <sup>1</sup>	22-37	By-product of drinking water chlorination
HAA5 (Haloacetic acids)	ppb	60	N/A	17 <sup>1</sup>	12-20	By-product of drinking water disinfection
Total Organic Carbon	ratio <sup>5</sup>	TT Removal ratio >1	N/A	2.35 <sup>1</sup>	1.76-2.92	Naturally present in the environment

Inorganic Chemicals						
Substance	Units	MCL	MCLG	Highest Detected	Range Detected	Likely Source
Barium	ppm	2	2	0.190	0.190	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chloramines	ppm	4.0	4.0	2.81 <sup>1</sup>	2.72-2.85	Water additive used to control microbes
Chlorine dioxide	ppb	800	800	230	<10-230	Water additive used to control microbes
Chlorite	ppm	1.0	0.8	0.59 <sup>4</sup>	0.34-0.59	By-product of drinking water disinfection
Copper <sup>2</sup> (8/01/02)	ppb	AL=1300	1300	690@90th percentile	2 sites above AL	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	ppm	4	4	0.92	0.75-0.92	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Lead <sup>2</sup> (8/01/02)	ppb	AL=15	0	15@90th percentile	6 sites above AL	Corrosion of household plumbing systems, erosion of natural deposits
Turbidity	NTU	TT=5 max TT<0.3 95% of the time	N/A	0.27 NTU 100%	0.04-0.27	Soil runoff causes water cloudiness by suspended matter

Microbiological Organisms						
Substance	Units	MCL	MCLG	Highest Detected	Range Detected	Likely Source
Total Coliform	%	Presence <5% of Samples	0	1.3	0-1.3	Naturally present in the environment

Radionuclides						
Substance	Units	MCL	MCLG	Highest Detected	Range Detected	Likely Source
Beta/photon emitters	pCi/L	50 <sup>3</sup>	N/A	4.1	4.1	Decay of natural and man-made deposits
Radium 226 & 228	pCi/L	5	N/A	1.48	1.48	Erosion of natural deposits
Uranium	pCi/L	20	N/A	1.86	1.86	Erosion of natural deposits

## Mineral, Nutrient & Physical Characteristics

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

Mineral, Nutrient & Physical Characteristics			
Substance	Units	Highest Detected	Range Detected
Aluminum	ppb	<25	<25
Chloride	ppm	45	23-45
Color	PCU	2.6	0.8-2.6
Corrosivity	LSI	0.63	0.02-0.63
Manganese	ppb	39	<2.0-39
pH	Standard units	7.67	7.42-7.67
Sulfate	ppm	181	122-181
Total Dissolved Solids	ppm	547	464-547
Zinc	ppb	5.2	<5.0-5.2
Temperature	Degrees C	24.9	12.9-24.9
Conductivity	µMHOs/cm	841	714-841
Total Alkalinity, pH>4.5	ppm as CaCO <sub>3</sub>	268	201-268
Total Hardness	ppm as CaCO <sub>3</sub>	336	272-336
Total Hardness	Grains per gallon	19.6	15.9-19.6
Sodium	ppm	71	55-71
Calcium	ppm	87	68-87
Nickel	ppb	<5.0	<5.0
ortho-Phosphate as P	ppm	0.346	0.098-0.346
Ammonia, total as NH <sub>3</sub>	ppm	1.25	0.83-1.25
Silica	ppm	15	9-15

**T**he mission of the Water Division of the Kansas City Board of Public Utilities is to have available upon demand, to all of our customers, good quality water and to provide that water in the most efficient manner possible. We are proud to carry out this mission and to serve our customers. We hope that you find this report useful and informative.

<sup>1</sup> Running Annual Average

<sup>2</sup> BPU tap water has had very low levels of copper and lead. For this reason, KDHE placed BPU on a reduced-monitoring frequency of once every three years. The data presented in the report are from the most recent testing done in accordance with the regulations.

<sup>3</sup> EPA considers 50 pCi/L to be the level of concern for beta particles.

<sup>4</sup> Monthly Average

<sup>5</sup> The monthly TOC removal ratio is calculated as the ratio between the actual TOC removal and the TOC rule removal requirements. The ratio shown is the average of the ratios for the 12 months in 2003.