Annual WATER QUALITY REPORT

Reporting Year 2012

Presented By _____

JACKSON COUNTY PUBLIC WATER SUPPLY DISTRICT NO. 2

PWS ID#: MO1024276

There When You Need Us

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2012. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best quality drinking water to you. 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.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water.

Community Participation

You are invited to participate in our public meetings and voice your concerns about your drinking water. We meet the 2nd Wednesday of each month beginning at 5 p.m. at the Water District Office, 6945 Blue Ridge Boulevard, Raytown, Missouri 64133.

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.

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.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Patrick Ertz, Water District Manager, at (816) 353-5550.

Where Does My Water Come From?

Public Water Supply District #2 customers are fortunate because we enjoy an abundant water supply from two sources. The first is Kansas City Water, which draws surface water from the Missouri River and from deep wells in the Missouri Aquifer. Our second water source is Independence Water, which draws water from wells located in the Missouri River Alluvial Aquifer. Combined, we provide roughly 420 million gallons of clean drinking water every year.

What's a Cross-connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed all industrial, commercial, and institutional facilities in the service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. We also make sure that it is tested and is providing maximum protection.

For more information, review the Cross-Connection Control Manual from the U.S. EPA's Web site at http://water.epa.gov/infrastructure/drinkingwater/pws/crossconnectioncontrol/index.cfm. You can also call the Safe Drinking Water Hotline at (800) 426-4791.

Fact or Fiction

Water treatment began as a way to remove disease-causing agents. *(Fiction: It was only in the 1950s that scientists began to suspect that water might carry diseases. Although earlier treatment of water could make the water safer, it was mainly done merely to improve the taste, smell, or appearance of the water.)*

About half of the world's water supply is available for drinking. *(Fiction: If all the world's water were fit into a gallon jug, the fresh water available for us to use would equal only about one tablespoon.)*

Due to its unique nature, water boils at the same temperature anywhere on the planet. *(Fiction: At sea level, water boils at 212 degrees Fahrenheit, but on top of Mt. Everest, water boils at 154 degrees.)*

Water regulates the temperature of the Earth. *(Fact: As in the human body, the water in our oceans, lakes, and streams plays a major role in regulating planetary temperatures.)*

The Mississippi River is longer than the Amazon River. *(Fiction: At 3,902 miles the Mississippi River is not as long as the Amazon River, which flows for 4,000 miles.)*

Forty trillion gallons of water a day are carried in the atmosphere across the United States. *(Fact: Forty percent of the atmosphere's moisture content falls as precipitation each day.)*

You may not be aware of it, but every time you pour fat, oil, or grease (FOG) down your sink (e.g., bacon grease), you are contributing to a costly problem in the sewer collection system. FOG coats the inner walls of the plumbing in your house as well as the walls of underground piping throughout the community. Over time, these greasy materials build up and form blockages in pipes, which can lead to wastewater backing up into parks, yards, streets, and storm drains. These backups allow FOG to contaminate local waters, including drinking water. Exposure to untreated wastewater is a public health hazard. FOG discharged into septic systems and drain fields can also cause malfunctions, resulting in more frequent tank pump-outs and other expenses.

Communities spend billions of dollars every year to unplug or replace grease-blocked pipes, repair pump stations, and clean up costly and illegal wastewater spills. Here are some tips that you and your family can follow to help maintain a well-run system now and in the future:

NEVER:

- Pour fats, oil, or grease down the house or storm drains.
- Dispose of food scraps by flushing them.
- Use the toilet as a waste basket.

ALWAYS:

- Scrape and collect fat, oil, and grease into a waste container such as an empty coffee can, and dispose of it with your garbage.
- Place food scraps in waste containers or garbage bags for disposal with solid wastes.
- Place a wastebasket in each bathroom for solid wastes like disposable diapers, creams and lotions, and personal hygiene products including nonbiodegradable wipes.

Source Water Assessment

A Source Water Assessment Plan (SWAP) is now available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area, and a determination of the water supply's susceptibility to contamination by the identified potential sources.

If you would like to review the Source Water Assessment Plan, please feel free to contact our office during regular office hours. You can also contact Independence Water and Kansas City Water for information on their own assessments.

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.

Radon

Radon is a radioactive gas that occurs naturally in some ground water. It may pose a health risk when the gas is released from water into air, as occurs during showering, bathing, or washing dishes and clothes. Radon gas released from drinking water is a relatively small part of the total radon in air. Radon is released into homes and ground water from soil. Inhalation of radon gas has been linked to lung cancer; however, the effects of radon ingested in drinking water are not yet clear. If you are concerned about radon in your home, tests are available to determine the total exposure level. For additional information on how to have your home tested, call (800) SOS-RADON.

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often than once per year because the concentrations of these substances 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

				Independence Water		Kansas City Water			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (ppb)	2012	15	0	1.9	1.9–1.9	NA	NA	No	Erosion of natural deposits
Atrazine (ppb)	2012	3	3	NA	NA	0.31	ND–2.47	No	Runoff from herbicide used on row crops
Barium (ppm)	2012	2	2	0.059	0.059–0.059	0.010	0.005–0.016	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/Photon Emitters[1] (pCi/L)	2012	50	0	9.1	9.1–9.1	NA	NA	No	Decay of natural and man-made deposits
Chloramines (ppm)	2012	[4]	[4]	2.02	1.52–2.34	2.46	1.73–3.29	No	Water additive used to control microbes
Chromium (ppb)	2012	100	100	NA	NA	3	2–7	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm)	2012	4	4	0.29	0.29–0.29	0.91	0.18–1.27	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 1 (ppb)	2012	60	NA	1.4	1.4–1.4	NA	NA	No	By-product of drinking water disinfection
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2012	60	NA	NA	NA	17.1	12.9–24.3	No	By-product of drinking water disinfection
Nitrate (ppm)	2012	10	10	NA	NA	0.31	ND–3.6	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	2012	50	50	NA	NA	1	ND–2.5	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	2012	80	NA	NA	NA	8.4	4.0–14.2	No	By-product of drinking water disinfection
Total Organic Carbon (ppm)	2012	TT	NA	1.8	1.8–1.8	2.61	1.29–5.75	No	Naturally present in the environment
Turbidity[2] (NTU)	2012	TT	NA	NA	NA	0.10	0.05–0.10	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2012	TT	NA	NA	NA	100	NA	No	Soil runoff
Uranium (ppb)	2012	30	0	0.1	0.1–0.1	NA	NA	No	Erosion of natural deposits

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)	2010	1.3	1.3	0.00349	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2010	15	0	1.83	1/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

[1] The MCL for beta particles is 4 mrem/year. The U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

[2] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

DISINFECTION BYPRODUCTS	SAMPLE POINT	MONITORING PERIOD	LRAA	RANGE LOW-HIGH	UNIT	MCL	MCLG	TYPICAL SOURCE
(HAA5)	DBPDUAL-01	2012	15	0 - 15.4	ppb	60	0	By-product of drinking water disinfection
(HAA5)	DBPDUAL-02	2012	15	0 - 16.7	ppb	60	0	By-product of drinking water disinfection
(HAA5)	DBPDUAL-03	2012	15	12.4 - 14.6	ppb	60	0	By-product of drinking water disinfection
(HAA5)	DBPDUAL-04	2012	15	0 - 0	ppb	60	0	By-product of drinking water disinfection
TTHM	DBPDUAL-01	2012	15	5.29 - 9.45	ppb	80	0	By-product of drinking water disinfection
TTHM	DBPDUAL-02	2012	15	0 - 8.33	ppb	80	0	By-product of drinking water disinfection
TTHM	DBPDUAL-03	2012	15	0 - 9.87	ppb	80	0	By-product of drinking water disinfection
TTHM	DBPDUAL-04	2012	15	0 - 7.06	ppb	80	0	By-product of drinking water disinfection

OTHER SUBSTANCES (INDEPENDENCE WATER)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Radon (pCi/L)	2012	300	0	114	114–114	No	Erosion of natural deposits

Definitions

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

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.