WaterOne

Water District No. 1 of Johnson County

2013 Water Quality Report

Kansas River

SAFE, RELIABLE WATER SOURCES

WaterOne draws its water from the Kansas and Missouri Rivers. Our customers gain advantages from diversifying our water sources. We have less vulnerability during drought and an ample supply of fresh water.

RIVER PHOTO CREDIT:
Courtesy of *Lisa Grossman, Friends of the Kaw.* For more information on Friends of the Kaw and how they're protecting and preserving the Kansas River, visit www.kansasriver.org.

Water Treatment

In 2012, WaterOne treated approximately 10.3 billion gallons of Kansas River water, 6.0 billion gallons of Missouri River water, 10.5 billion gallons from the Wolcott Collector Well, and 0.8 billion gallons of water from wells south of the Kansas River.

Water Testing

WaterOne tests for over 100 regulated and unregulated contaminants in drinking water. Our state-of-the-art water quality lab tests over 1,000 water samples each month to ensure the finest water reaches customers' taps.

All monitoring data in this report is from 2012. **If a known health-related contaminant is not listed in this report, WaterOne did not detect it in the water.**

A Message from WaterOne

We are pleased to share the 2013 Water Quality Report with you. This report is essentially the nutritional label for the product you probably consume more than any other - water.

For over 55 years, WaterOne has proudly served its customers as an independent, non-profit public water utility. Every day, over 400,000 customers rely on us to provide fresh, clean water on demand. It's a responsibility we deliver on.

We're able to grow to meet customer demand because we follow our Master Plan, a comprehensive plan for expansion and sustainability.

We make regular and ongoing investments in infrastructure to ensure a plentiful and ready supply of fresh water is available to our customers.

And we're thinking about the future too, carefully managing the utility so that our services are here for the next generation.

At WaterOne, we believe in the meaningful work of producing clean water because we're making it for you.

Special Notice for Immuno-Compromised Persons

Some people may be more vulnerable to contaminants in drinking water than the general population.

Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, persons with HIV/AIDS or other immune system disorders, some elderly people, and infants can be particularly at risk from infections.

These people should seek advice about drinking water from their health care providers. Guidelines from the Environmental Protection Agency (EPA) and Centers for Disease Control and Prevention (CDC) 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.**

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Drinking water regulations require WaterOne to make available this information to customers each year — it's the law. Most of the language is also required. Congress and the EPA want to be sure that people know what is in their drinking water. WaterOne agrees.

WaterOne has tried to make this complex information readable and produce this report at a low cost of $0.01 per customer. In our continuing effort to be environmentally responsible, we offer this report online with printed copies only by request. To request a paper copy, contact Customer Service at 913/895-1800.

What the EPA Says About Drinking Water Contaminants

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 that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at **800/426-4791** or at www.epa.gov/safewater.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, and ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants in drinking water sources may include:

Microbial contaminants, such as viruses and bacteria, which may come from wildlife or septic systems.

Inorganic contaminants, such as salts and metals, which can occur naturally or result from urban stormwater runoff, industrial or domestic wastewater discharges or farming.

Pesticides and herbicides, which may come from a variety of sources such as farming, urban stormwater runoff and home or business use.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes, and can also come from gas stations, urban stormwater runoff and septic systems.

Radioactive contaminants, which can occur naturally.

In order to ensure that tap water is safe to drink, the EPA has regulations that limit the amount of certain contaminants in water provided by public water systems and require monitoring for these contaminants. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Public Involvement Opportunities

We welcome your interest in WaterOne. We provide a variety of public information, public involvement, and community outreach opportunities. If you have questions about WaterOne meetings, projects, or programs, visit us online at www.waterone.org, or visit us at www.facebook.com/MyWaterOne or www.twitter.com/MyWaterOne to leave a comment.

Summary of Water Quality

The summary shows monitoring results for January 1 to December 31, 2012.

Parameter	MCL	MCLG	WaterOne Result	WaterOne Range	Sample Date	Met Standard	Source
Inorganic Contaminants							
Barium	2 ppm	2 ppm	0.06 ppm	0.01 ppm - 0.06 ppm	Quarterly	✔	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chloramines	MRDL = 4 ppm	MRDLG = 4 ppm	3.0 ppm[1]	1.2 ppm - 5.3 ppm[1]	Daily	✔	Water additive used to control microbes
Chlorine Dioxide	MRDL = 800 ppb	MRDLG = 800 ppb	190 ppb	ND (50) ppb - 190 ppb	Monthly	✔	Water additive used to control microbes
Chlorite	1 ppm	0.8 ppm	0.3 ppm	ND (0.03) ppm - 0.8 ppm	Monthly	✔	By-product of drinking water disinfection
Chromium	100 ppb	100 ppb	2.9 ppb	ND (1) ppb - 2.9 ppb	Quarterly	✔	Discharge from steel and pulp mills; Erosion of natural deposits
Copper	AL = 1.3 ppm	1.3 ppm	0.014 ppm[2]	0 samples exceeding; Results from 2012	Annually	✔	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Fluoride	4 ppm	4 ppm	0.81 ppm	0.27 ppm - 0.81 ppm	Monthly	✔	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Lead	AL = 15 ppb	0 ppb	6.2 ppb[2]	3 samples exceeding; Results from 2012	Annually	✔	Corrosion of household plumbing systems; Erosion of natural deposits
Nitrate	10 ppm	10 ppm	1.8 ppm	ND (0.1) ppm - 1.8 ppm	Quarterly	✔	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium	50 ppb	50 ppb	2.6 ppb	ND (0.5) - 2.6 ppb	Quarterly	✔	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Synthetic Organic Contaminants							
Atrazine	3 ppb	3 ppb	0.2 ppb	ND (0.2) ppb - 0.3 ppb	Monthly	✔	Runoff from herbicide used on row crops
Volatile Organic Contaminants							
Haloacetic Acids (HAA)	60 ppb	n/a	24 ppb	2.4 ppb - 25 ppb	Monthly	✔	By-product of drinking water disinfection
Total Trihalomethanes (THM's)	80 ppb	n/a	36 ppb	8.1 ppb - 41 ppb	Monthly	✔	By-product of drinking water disinfection
Microbiological Contaminants							
Total Coliforms	presence of Coliform bacteria in ≥ 5% of monthly samples	0 (<1/100 mls)	0.9%	0 - 0.9% positive samples per month	Daily	✔	Naturally present in the environment
Total Organic Carbon	removal ratio[3] (25% required)	TT	51%	30% - 62% removed	Monthly	✔	Naturally present in the environment
Turbidity	TT NTU	TT NTU	0.92 NTU[4]	99.5% lowest monthly % meeting 0.3 NTU	Daily	✔	Soil runoff
Radiological Contaminants							
Beta Particle & Photon Radioactivity	50 pCi/L	0 pCi/L	4.6 pCi/L[5]	2.2 pCi/L - 4.6 pCi/L	Annually	✔	Decay of natural and man-made deposits
Radium-226	5 pCi/L	0 pCi/L	0.2 pCi/L	ND (0.1) pCi/L - 0.2 pCi/L	Annually	✔	Erosion of natural deposits
Radium-228	5 pCi/L	0 pCi/L	0.8 pCi/L	ND (0.6) pCi/L - 0.8 pCi/L	Annually	✔	Erosion of natural deposits

1. WaterOne is required to maintain a minimum residual of 1.0 ppm throughout its distribution system by the Kansas Dept. of Health & Environment as a means to provide some measure of protection against microbiological contamination. Maximum residual compliance is based on monthly averages. WaterOne's highest value, 5.3 ppm, was an instantaneous reading.
2. Data from 2012 annual monitoring, though not required by a "reduced monitoring schedule" as a result of low levels of lead and copper. This value is the 90th percentile result. The 95th percentile value for lead is 8.5 ppb; the 95th percentile value for copper is 0.017 ppm.
3. The monthly TOC removal ratio is calculated as the ratio between the actual TOC removal and the TOC rule removal requirements.
4. This is the highest turbidity measurement for 2012. Compliance is based on 95% of monthly samples being less than 0.3 NTU. The average turbidity was less than 0.10 NTU. Turbidity is measured as an indicator of the effectiveness of the water treatment process. The lower the turbidity, the more effective the treatment process.
5. EPA considers 50 pCi/L to be the level of concern for beta particles.

Constituents Having Secondary MCL's

Unregulated Parameters are monitored in the interest of the customer and to assist regulators in developing future regulations.

Parameter	Federal Level Recommended (SMCL)	WaterOne Results (Avg.)	Range (Low - High)
Chloride	250 ppm	43 ppm	19 ppm - 110 ppm
Corrosivity**	0 S.I.	1.17 S.I.	0.56 S.I. - 1.64 S.I.
Fluoride	2.0 ppm	0.70 ppm	0.27 ppm - 0.81 ppm
Odor-Threshold (T.O.N.)	3 T.O.N.	1 T.O.N.	1 T.O.N. - 4 T.O.N.
Sulfate	250 ppm	161 ppm	102 ppm - 225 ppm
Total Dissolved Salts (TDS)	500 ppm	360 ppm	330 ppm - 400 ppm
Zinc	5000 ppb	10 ppb	5 ppb - 24 ppb

**Positive values indicate tendency of water to be non-corrosive. Non-corrosive water reduces the likelihood of lead or copper leaching into the water from plumbing.

Unregulated Parameters

WaterOne conducted testing according to the EPA guidelines for the following Unregulated Parameters.

Parameter	Federal Level Recommended	Goal	WaterOne Results (Avg.)	Range
Alkalinity, Total (as $CaCO_3$)	300 ppm	> 40 ppm	62 ppm	45 ppm - 77 ppm
Bromodichloromethane	n/a	0 ppb	4.4 ppb	2.0 ppb - 9.6 ppb
Calcium	n/a	n/a	30 ppm	6.8 ppm - 42 ppm
Carbon, Total Organic (TOC)	10,000 ppm	n/a	2.3 ppm	1.8 ppm - 3.4 ppm
Chlorate	n/a	n/a	186 ppb	ND (100) ppb - 480 ppb
Chlorodibromomethane	n/a	60 ppb	1.5 ppb	ND (1.0) - 8.8 ppb
Chloroform	n/a	70 ppb	14 ppb	5.5 ppb - 29.4 ppb
Conductivity	1,500 µmhos/cm	n/a	620 µmhos/cm	486 - 890 µmhos/cm
Dicholoroacetic acid*	n/a	zero ppm	11 ppb	1.1 ppb - 20 ppb
Hardness, Calcium (as $CaCO_3$)	200 ppm	> 60 ppm	76 ppm	48 ppm - 105 ppm
Hardness, Magnesium (as $CaCo_3$)	150 ppm	50 ppm	48 ppm	17 ppm - 98 ppm
Hardness, Total (as $CaCo_3$)	400 ppm	200 ppm	123 ppm	73 ppm - 152 ppm
Magnesium	150 ppm	50 ppm	13 ppm	11 ppm - 15 ppm
Nickel	100 ppb	100 ppb	1.6 ppb	ND (0.5) - 4.9 ppb
pH	8.5 pH units	> 9.0 pH units	9.5 pH units	9.2 - 9.8 pH units
Phosphorus, Total	5 ppm	n/a	0.20 ppm	ND (0.05) - 0.4 ppm
Potassium	100 ppm	20 ppm	7.6 ppm	6.0 ppm - 10 ppm
Silica	50 ppm	n/a	8.4 ppm	5.1 ppm - 12.4 ppm
Sodium	100 ppm	20 ppm	73 ppm	54 ppm - 98 ppm
Trichloroacetic acid	n/a	20 ppb	1.4 ppb	ND (1.0) ppb - 2.9 ppb

*The MCLG for Dichloroacetic acid is listed as zero (in ppm) in the Regulatory Statutes.

Unregulated Contaminant Monitoring Rule

Second cycle (UCMR2)

Parameter	Federal Level Recommended	Goal	WaterOne Results (Ave.)	Range
N-nitroso-dimethylamine (NDMA)	n/a	n/a	0.006 ppb	ND (0.002) ppb - 0.011 ppb

DEFINITIONS

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

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

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 Residual Disinfectant Level (MRDL): 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.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of 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.

Not Detected (ND): Not detected in the water.

Nephelometric Turbidity Units (NTU): A measure of the clarity of water.

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

Parts per million (ppm): Or milligrams per liter.

Parts per billion (ppb): Or micrograms per liter.

pH Units: A measure of acidity or basicity of the water.

Saturation Index (S.I.): Measure of corrosivity

Secondary Maximum Contaminant Level (SMCL): Secondary MCLs for various water quality indicators are established to protect public welfare.

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

µmhos/cm: Or micromhos/cm; a measure of the ability of a solution to carry an electric

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