



Water District No. 1 of Johnson County

WATER QUALITY REPORT



2014

WHAT IS THIS REPORT?

This report is to let you - our customers - know that water produced by WaterOne meets or exceeds all standards for safe, high-quality water.

WaterOne is required by drinking water regulations to make this water quality report available to customers. It's like a nutritional label for the substance you probably consume the most - water!

This data and information can be complex, so we've tried to make it readable while also including the required language. Congress, the EPA, and WaterOne want to be sure that consumers know what's in their drinking water.

WHAT DO WE TEST FOR?

WaterOne tests for over 100 regulated and unregulated contaminants in drinking water. Our state-of-the-art water quality lab runs over 120,000 tests on 18,000 water samples each year to ensure the finest water reaches our customers' taps.

All data in this report is from 2013. **If a known health-related contaminant is not listed in this report, WaterOne did not detect it in the water.**



HOW MUCH WATER DOES WATERONE PRODUCE?

In 2013, WaterOne treated approximately 10.7 billion gallons of Kansas River water, 2.5 billion gallons of Missouri River water, 8.7 billion gallons from its Wolcott Collector Well (adjacent to the Missouri River), and 0.9 billion gallons of water from collector wells south of the Kansas River.

WaterOne customers consume an average of 30-150 million gallons per day (MGD), depending on the time of year. The most water consumed in one day was 157.5 MGD, set on July 23, 2012.

HOW CAN I GET WATER ALERTS?

Sign-up for water alerts at www.NotifyJoCo.org. Customize your contact info, alert preferences, and tag your locations - home, work, school, etc. You'll automatically get a phone, text, or email if we need to take water down for maintenance or emergency repair as well as important water quality or water use alerts.

NotifyJoCo is made possible by a partnership of local governments and public utilities in Johnson County. [Learn more at www.NotifyJoCo.org](http://www.NotifyJoCo.org).



WATER AT A GLANCE

ALL DRINKING WATER, including bottled water, can 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.*

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.

More information about contaminants and potential health effects can be found at the Environmental Protection Agency's Safe Drinking Water Hotline at 800/426-4791 or at www.epa.gov/safewater.

Ensuring Safe, Reliable Water

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.

Our Treatment Process

- 1. Aeration** - Raw water is drawn from our fresh water sources - the Kansas and Missouri Rivers and adjacent collector wells - and collects in our presedimentation holding basins, allowing large debris particles to settle out.
- 2. Coagulation/Flocculation** - Water is transferred to mixing basins at our treatment plants where we add alum and polymer. This process causes small organic particles to clump together, forming larger particles (flocculation).
- 3. Sedimentation** - Over time, the now-larger particles become heavy, settle to the bottom, and get strained out. Depending on the profile of the raw water at the time, we may add lime or soda ash to counteract calcium and magnesium, softening the water. Water is then transferred to a second clarifier where we add carbon dioxide to balance pH and treat it again to flocculate and strain sediment clumps.
- 4. Filtration** - Water filters through layers of fine, granular materials—anthracite coal and sand filters. As smaller, suspended particles are removed, cloudiness diminishes and clear water emerges.
- 5. Disinfection** - To protect against bacteria and other microbes, disinfectant is added before the water flows into the distribution system - clean, fresh, and delicious. Fluoride occurs naturally in our water but also is supplemented in the treated water.

WATER QUALITY DATA

TERMS, ABBREVIATIONS & SYMBOLS

Some of the terms used in this report are unique to the water industry and might not be familiar to all customers. Explanations are provided below.

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.

Parts per trillion (ppt): Or nanograms 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 current.

Sources of Drinking Water

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.

WATER QUALITY: WHAT IS IN THE WATER?

Parameter	MCL	MCLG	WaterOne Result	WaterOne Range	Sample Date	Met Standard	Source
Inorganic Contaminants							
Arsenic	10 ppb	0 ppb	1.5 ppb	ND (1) ppb - 1.5 ppb	Quarterly	✓	Erosion of natural deposits; Run-off from orchards, glass and electronics production wastes
Barium	2 ppm	2 ppm	0.04 ppm	0.03 ppm - 0.04 ppm	Quarterly	✓	Discharge of drilling wastes; discharge from metal refineries, erosion of natural deposits
Chloramines	MRDL=4 ppm	MRDLG=4 ppm	2.8 ppm ¹	1.3 ppm - 4.4 ppm ¹	Daily	✓	Water additive used to control microbes
Chlorine Dioxide	MRDL=800 ppb	MRDLG=800 ppb	147 ppb	ND (50) ppb - 147 ppb	Monthly	✓	Water additive used to control microbes
Chlorite	1 ppm	0.8 ppm	0.3 ppm	ND (0.08) ppm - 0.7 ppm	Monthly	✓	By-product of drinking water disinfection
Chromium	100 ppb	100 ppb	2.9 ppb	2.6 ppb - 2.9 ppb	Quarterly	✓	Discharge from steel and pulp mills; erosion of natural deposits
Copper	AL=1.3 ppm	1.3 ppm	0.018 ppm ²	0 samples exceeding 2013	Annually	✓	Corrosion of household plumbing; erosion of natural deposits; leaching from wood preservatives
Cyanide	200 ppb	200 ppb	30 ppb	ND (20) ppb - 30 ppb	Quarterly	✓	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Fluoride	4 ppm	4 ppm	1.48 ppm	0.22 ppm - 1.48 ppm	Monthly	✓	Erosion of natural deposits; water additive (oral health); discharge - fertilizer and aluminum factories
Lead	AL=15 ppb	0 ppb	4 ppb ²	0 samples exceeding 2013	Annually	✓	Corrosion of household plumbing systems; erosion of natural deposits
Nitrate	10 ppm	10 ppm	1.9 ppm	ND (0.2) ppm - 1.9 ppm	Quarterly	✓	Fertilizer run-off; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	50 ppm	50 ppb	3.4 ppb	ND (1) - 3.4 ppb	Quarterly	✓	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Synthetic Organic Contaminants							
Atrazine	3 ppb	3 ppb	ND (0.2) ppb	ND (0.2) ppb - 1.1 ppb	Monthly	✓	Run-off from herbicide used on row crops
Haloacetic Acids (HAA)	60 ppb	n/a	19 ppb	1.0 ppb - 30.6 ppb	Monthly	✓	By-product of drinking water disinfection
Total Trihalomethanes (THMs)	80 ppb	n/a	26 ppb	9.6 ppb - 45.1 ppb	Monthly	✓	By-product of drinking water disinfection
Microbiological Contaminants							
Total Coliforms	Bacteria present in ≥	0(<1/100 mls)	0.8%	0 - 0.8% positive samples/month	Daily	✓	Naturally present in the environment
Total Organic Carbon	Removal ratio ³ (1.0 required)	TT	1.0	1.8-2.6 RAA Removal Ratio	Monthly	✓	Naturally present in the environment
Turbidity	TT NTU	TT NTU	0.68 NTU ⁴	100% lowest monthly % meeting 0.3 NTU	Daily	✓	Soil run-off
Radiological Contaminants							
Beta Particle & Photon Radioactivity	50 pCi/L	0 pCi/L	4.5 pCi/L ⁵	3.0 pCi/L - 4.5 pCi/L	Annually	✓	Decay of natural and man-made deposits
Uranium	30 ppb	0 ppb	0.7 ppb	ND (0.7) pCi/L - 0.7 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, 4.4 ppm, was an instantaneous reading.

2. Data from 2013 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 7.0 ppb; the 95th percentile value for copper is 0.021 ppm.

3. Monthly TOC removal ratio is calculated as the ratio between the actual TOC removal *achieved* and the TOC rule removal requirements.

4. This is the highest turbidity measurement for 2013. 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.

UNREGULATED PARAMETERS

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

Parameter	Federal Level Recommended	Goal	WaterOne Results (Ave.)	Range
Alkalinity, Total*	300 ppm	> 40 ppm	66 ppm	49 ppm - 83 ppm
Bromodichloromethane	n/a	0 ppb	4.7 ppb	2.2 ppb - 6.4 ppb
Calcium	n/a	n/a	32 ppm	23 ppm - 53 ppm
Carbon, Total Organic (TOC)	10,000 ppm	n/a	2.5 ppm	1.5 ppm - 8.6 ppm
Chlorate	n/a	n/a	175 ppb	140 ppb - 200 ppb
Chlorodibromomethane	n/a	60 ppb	1.7 ppb	ND (0.5) - 4.0 ppb
Chloroform	n/a	70 ppb	24 ppb	6.7 ppb - 94.3 ppb
Conductivity	1,500 µmhos/cm	n/a	628 µmhos/cm	305 - 945 µmhos/cm
Dichloroacetic acid**	n/a	0 ppm	16 ppb	7.5 ppb - 46 ppb
Hardness, Calcium*	200 ppm	> 60 ppm	78 ppm	59 ppm - 133 ppm
Hardness, Magnesium*	150 ppm	50 ppm	49 ppm	7 ppm - 88 ppm
Hardness, Total*	400 ppm	200 ppm	128 ppm	68 ppm - 163 ppm
Magnesium	150 ppm	50 ppm	12 ppm	2 ppm - 21 ppm
Monochloroacetic acid	n/a ppb	70 ppb	2 ppb	ND (1.0) ppb - 5.1 ppb
Nickel	100 ppb	100 ppb	ND (1) ppb	ND (1) ppb - 1.1 ppb
pH	8.5 pH units	> 9.0 pH units	9.6 pH units	9.4 - 9.9 pH units
Phosphorus, Total	5 ppm	n/a	0.20 ppm	ND (0.05) - 0.4 ppm
Potassium	100 ppm	20 ppm	7.2 ppm	5.5 ppm - 9.6 ppm
Silica	50 ppm	n/a	8.4 ppm	2.9 ppm - 12.7 ppm
Sodium	100 ppm	20 ppm	64 ppm	19 ppm - 130 ppm
Trichloroacetic acid	n/a	20 ppb	2.9 ppb	1.5 ppb - 8.9 ppb

* As CaCO₃
** The MCLG for Dichloroacetic acid is listed as zero (in ppm) in the Regulatory Statutes.

CONSTITUENTS HAVING SECONDARY MCL'S

Monitored in the interest of consumers and to assist regulators in developer future regulations.

Parameter	Federal Level Recommended (SMCL)	WaterOne Results (Ave.)	Range (Low - High)
Aluminum	200 ppb	8 ppb	5 ppb - 15 ppb
Chloride	250 ppm	67 ppm	21 ppm - 170 ppm
Copper	1000 ppm	1 ppm	ND (1) ppb - 3 ppb
Corrosivity**	0 S.I.	1.19 S.I.	0.72 S.I. - 1.61 S.I.
Fluoride	2.0 ppm	0.63 ppm	0.22 ppm - 1.48 ppm
Odor-Threshold (T.O.N.)	3 T.O.N.	1 T.O.N.	1 T.O.N. - 5 T.O.N.
Sulfate	250 ppm	133 ppm	36 ppm - 209 ppm
Total Dissolved Salts (TDS)	500 ppm	376 ppm	183 ppm - 567 ppm
Zinc	5000 ppb	10 ppb	ND (5) ppb - 14 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 CONTAMINANT MONITORING RULES

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

Third cycle (UCMR3)

Parameter	Federal Level Recommended	Goal	WaterOne Results (Ave.)	Range
1,1 - Dichloroethane	n/a ppt	n/a ppt	36 ppt	ND (30) - 36 ppt
Chlorate	n/a ppb	n/a ppb	178 ppb	140 ppb - 200 ppb
Chromium, Hexavalent	n/a ppb	n/a ppb	1.8 ppb	1.4 ppb - 2.0 ppb
Chromium, Total	n/a ppb	n/a ppb	1.8 ppb	1.3 ppb - 2.4 ppb
Molybdenum	n/a ppb	n/a ppb	4.2 ppb	3.6 ppb - 5.0 ppb
Strontium	n/a ppb	n/a ppb	254 ppb	210 ppb - 340 ppb
Vanadium	n/a ppb	n/a ppb	3.1 ppb	1.5 ppb - 5.6 ppb

All data is for January 1 to December 31, 2013.

WATER IS LIFE



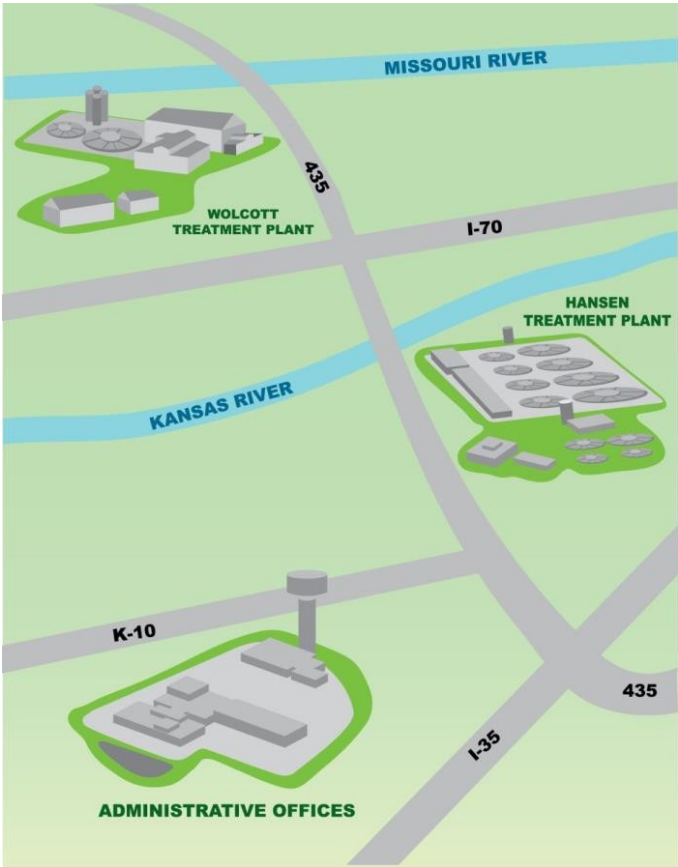
GOING GREEN FOR A BLUE PLANET
Stewardship is a big deal at WaterOne - whether it's using our rate dollars wisely, taking care of our infrastructure, or being a friend to the environment.

This report is available 24/7 at www.waterone.org.
To request a paper copy, contact Customer Service at 913/895-1800.

MORE ABOUT WATERONE

WHERE DOES YOUR WATER COME FROM?

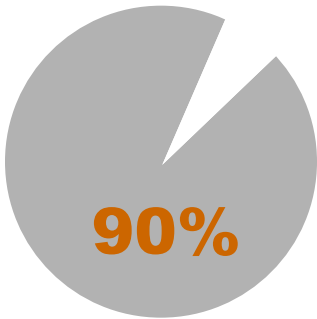
WaterOne's drinking water comes from the Kansas and Missouri Rivers. With multiple water sources, we have less vulnerability during drought and an ample supply of fresh water year-round.



Did you know? A PENNY buys you 2 gallons of WaterOne.

Based on 2014 rates for the average residential customers.

CUSTOMER SATISFACTION



We're proud to carry an average overall customer satisfaction score above 90%. Our customers consistently give us high marks for water quality, reliability, customer service, and the responsiveness of our friendly, professional staff.

GREAT VALUE

WaterOne customers enjoy some of the lowest rates for water service in the metro area. Our rates average 30% less than neighboring water utilities.



THE TRADITION CONTINUES

WaterOne is an independent public utility. We've been proudly serving the Johnson County, Kansas area since 1957. Every day, over 400,000 customers rely on WaterOne to provide fresh, clean water on demand. It's a responsibility we deliver on.

Water touches everything we care about. Family, health, safety, and community. The employees and leadership of WaterOne serve our community by bringing award-winning water to homes, businesses, and public places. To learn more about WaterOne, visit us at www.waterone.org.



Board meetings are typically held on the second Tuesday of the month at 7 pm at the Byron N. Johnson Administrative Headquarters and Service Center, 10747 Renner Boulevard, Lenexa, Kansas.

The public is welcome and encouraged to attend Board sessions.

Contact Us

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www.WaterOne.org

Customer Service: 913/895-1800
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