

## Governing Board



Brenda Cherpitel Terry Frederick Dick Noon Rob Olson Bob Reese Jim Vader Joe H. Vaughan

### 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 Result (Avg.)	Range (Low - High)
Aluminum*	200 ppb	4 ppb	2.5 ppb - 5.3 ppb
Chloride	250 ppm	46 ppm	19 ppm - 128 ppm
Copper	1000 ppb	2 ppb	ND(1) ppb - 3 ppb
Corrosivity**	0 S.I.	1.12 S.I.	0.72 S.I. - 1.55 S.I.
Fluoride	2.0 ppm	0.59 ppm	0.10 ppm - 0.92 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	121 ppm	59 ppm - 179 ppm
Total Dissolved Solids (TDS)	500 ppm	257 ppm	189 ppm - 412 ppm
Zinc	5000 ppb	10 ppb	3 ppb - 60 ppb

\*Aluminum also has a SMCLG of 50 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 Result (Avg.)	Range
Alkalinity, Total (as CaCO <sub>3</sub> )	300 ppm	> 40 ppm	62 ppm	42 ppm - 100 ppm
Bromodichloromethane	n/a	0 ppb	5.3 ppb	ND(3.0) - 11 ppb
Carbon, Total Organic (TOC)	10,000 ppm	n/a	2.5 ppm	1.6 ppm - 6.8 ppm
Chlorodibromomethane	n/a	60 ppb	2 ppb	ND(1) - 8 ppb
Chloroform	n/a	70 ppb	17 ppb	4.7 ppb - 40 ppb
Conductivity	1,500 µhos/cm	n/a	517 µhos/cm	371 - 825 µhos/cm
Dichloroacetic acid*	n/a	zero ppm	15 ppb	ND(1.0) - 31 ppb
Hardness, Calcium (as CaCO <sub>3</sub> )	200 ppm	> 60 ppm	74 ppm	26 ppm - 102 ppm
Hardness, Magnesium (as CaCO <sub>3</sub> )	150 ppm	50 ppm	53 ppm	16 ppm - 91 ppm
Hardness, Total (as CaCO <sub>3</sub> )	400 ppm	200 ppm	127 ppm	82 ppm - 176 ppm
Nickel	100 ppb	100 ppb	1.3 ppb	ND(0.5) - 1.8 ppb
pH	8.5 pH units	> 9.0 pH units	9.5 pH units	9.0 pH units - 9.8 pH units
Phosphorus, Total	5 ppm	n/a	0.11 ppm	ND(0.05) - 0.37 ppm
Potassium	100 ppm	20 ppm	7.2 ppm	4.6 ppm - 9.0 ppm
Silica	50 ppm	n/a	11.0 ppm	2.2 ppm - 18.0 ppm
Sodium	100 ppm	20 ppm	53 ppm	36 ppm - 81 ppm
Trichloroacetic acid	n/a	20 ppb	2.0 ppb	ND(1.0) - 4.3 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 Result (Avg.)	Range
N-nitroso-dimethylamine (NDMA)	n/a	n/a	0.006 ppb	ND(0.002) ppb - 0.011 ppb

Attend and participate in monthly WaterOne Board meetings, held the second Tuesday of each month at 7:00 p.m. at the Byron N. Johnson Administrative Headquarters and Service Center, 10747 Renner Boulevard, Lenexa, Kansas.

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#### Backflow prevention



Here's how you can protect yourself and your family.

1. Be sure your toilet flush valves have an anti-siphon device.
2. Never allow hoses to be submerged in sinks, pools, chemical tanks, etc., unless properly protected.
3. Get a licensed plumber trained in cross connection control to check out your home.
4. Visit [www.waterone.org](http://www.waterone.org) for more information on our cross connections program.

Water quality fact sheets, answers to frequently asked questions, and additional information are available on our website at [www.waterone.org](http://www.waterone.org).

You are always welcome to call a WaterOne Customer Service Representative at [913-895-1800](tel:913-895-1800).

If you would like extra copies of this report, visit our website, [www.waterone.org](http://www.waterone.org) to download your free report.



2011  
WATER  
QUALITY  
REPORT

# WaterOne News

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#### Protecting Yourself and Your Family from Cross Connections

WaterOne delivers safe, high quality water to your home. Our goal is to keep it that way! Sometimes, however, if safeguards haven't been taken in your plumbing, you could be jeopardizing your health.

A cross connection is defined as an actual or potential connection between a public water supply and a source of possible contamination or pollution.

The water pipes and plumbing fixtures that make up cross connections can be the link for the contamination to get back into the drinking water supply. When water pressures suddenly drop (i.e., main break or fire in the area), contaminated water could be siphoned back into your plumbing system from unprotected cross connections within your home. This is referred to as backflow.

#### Common examples of backflow

A toilet flush valve without an anti-siphon device permits contaminated water to get into the household plumbing system—and into the water you drink.



While filling the swimming pool with a garden hose, a drop in water pressure can cause a reverse flow of water, sucking dirt and chemicals into your water system.

While using an insecticide sprayer attachment on the garden hose, pressure changes can cause the chemical-laden water to be pulled back up the hose and into your home.

#### Ways to prevent backflow

See tips on the back page.

## Water Quality – OUR TOP PRIORITY

To understand the possible health effects described for most customers, consider the following example. A person would have to drink two liters of water every day at the maximum drinking water standard for a lifetime to have a one-in-a-million chance of having the described health effect.

EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline ([1-800-426-4791](tel:1-800-426-4791)) or online at [www.epa.gov/safewater](http://www.epa.gov/safewater).

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#### Special Health Requirements

Some people may be more vulnerable to contaminants found 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, and infants, can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

#### New Laboratory Expands and Enhances Testing Services



In September, 2010, WaterOne held a dedication in celebration of its new state-of-the-art laboratory. New features of the laboratory allow more on-site testing that was previously outsourced; better emergency response; and more rapid response to taste and odor issues. The new facility is approximately 20,000 square feet.

# SUMMARY OF WATER QUALITY

The USEPA requires monitoring of over 100 drinking water contaminants. Listed below are the only contaminants detected in your drinking water. None of the contaminants detected exceed state or federal standards. The summary shows monitoring results for January 1 to December 31, 2010.

## Definitions

### 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.

### MCL—Maximum Contaminant Level:

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.

### MLS—Milliliters

### 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 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.

### SMCL—Secondary Maximum Contaminant Level:

Secondary MCLs for various water quality indicators are established to protect public welfare.

### TT—Treatment Technique:

A required process intended to reduce the level of a contaminant in drinking water.

### AL—Action Level:

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

### ND—Not Detected

### NTU—Nephelometric Turbidity Units:

A measure of the clarity of water.

### pCi/L—Picocuries per liter:

A measure of radioactivity.

### ppm—Parts per million, or milligrams per liter.

### ppb—Parts per billion, or micrograms per liter.

### pH units—A unit of measurement:

A measure of acidity or basicity of the water.

### µhos/cm—(Or micromhos/cm):

A measure of the ability of a solution to carry an electric current.



# WaterOne Receives Awards

WaterOne was one of seven utilities worldwide selected as a finalist for a global water award for its Wolcott Treatment Plant. The award was presented at the Global Water Summit in Berlin, Germany. WaterOne received two other awards for its Wolcott Treatment Plant, including the County Public Improvement Award and the

Engineering Excellence Award from the American Council of Engineering Companies (ACEC). WaterOne also received a Green Business Recognition Award from the Johnson County Environmental Department Green Award Committee for its firm commitment to green initiatives.



The new WaterOne Wolcott Treatment Plant

## Water Treatment



In 2010 we treated approximately 4.2 billion gallons of Missouri River water, 11 billion gallons of Kansas River water, 6.8 billion gallons from the Wolcott Collector Well, and 0.4 billion gallons of well water from wells south of the Kansas River.

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Contaminants 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, and wildlife.

- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or 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 byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

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



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Parameter	MCL	MCLG	WaterOne Result	WaterOne Range	Sample Date	Met Standard	Source
<b>Inorganic Contaminants</b>							
Antimony	6 ppb	6 ppb	0.5 ppb	ND(0.5) - 0.5 ppb	Quarterly	✓	Discharge from petroleum refineries; Fire retardants; Ceramics; Electronics; Solder
Arsenic	10 ppb	0 ppb	2.1 ppb	ND(1.0) - 2.1 ppb	Quarterly	✓	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium	2 ppm	2 ppm	0.08 ppm	0.02 ppm- 0.08 ppm	Quarterly	✓	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chloramines	MRDL = 4 ppm	MRDLG = 4 ppm	3.0 ppm <sup>1</sup>	1.4 ppm - 4.5 ppm <sup>1</sup>	Daily	✓	Water additive used to control microbes.
Chlorine Dioxide	MRDL = 800 ppb	MRDLG = 800 ppb	109 ppb	ND(50) ppb - 109 ppb	Monthly	✓	Water additive used to control microbes.
Chlorite	1 ppm	0.8 ppm	0.4 ppm	0.1 ppm - 0.8 ppm	Monthly	✓	By-product of drinking water disinfection
Chromium	100 ppb	100 ppb	3.6 ppb	ND(1) ppb - 3.6 ppb	Quarterly	✓	Discharge from steel and pulp mills; Erosion of natural deposits
Copper	AL = 1.3 ppm	1.3 ppm	0.017 ppm <sup>2</sup>	0 samples exceeding	Annually	✓	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Cyanide	200 ppb	200 ppb	120 ppb <sup>**</sup>	ND(20) ppb - 120 ppb	Quarterly	✓	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Fluoride	4 ppm	4 ppm	0.92 ppm	0.09 ppm - 0.92 ppm	Monthly	✓	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Lead	AL = 15 ppb	0 ppb	5.3 ppb <sup>2</sup>	0 samples exceeding	Annually	✓	Corrosion of household plumbing systems; Erosion of natural deposits
Nitrate	10 ppm	10 ppm	1.5 ppm	0.04 ppm - 1.5 ppm	Quarterly	✓	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium	50 ppb	50 ppb	2.9 ppb	ND(0.5) - 2.9 ppb	Quarterly	✓	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
<b>Synthetic Organic Contaminants</b>							
Atrazine	3 ppb	3 ppb	ND(0.2)	ND(0.2) ppb - 1.2 ppb	Monthly	✓	Runoff from herbicide used on row crops
Di(2-ethylhexyl) phthalate	6 ppb	0 ppb	4.8 ppb*	ND(0.6) ppb - 4.8 ppb*	Quarterly	✓	Discharge from rubber and chemical factories
<b>Volatile Organic Contaminants</b>							
Haloacetic Acids (HAA)	60 ppb	n/a	25 ppb	8.2 ppb - 52 ppb	Monthly	✓	By-product of drinking water disinfection
Total Trihalomethanes (THM's)	80 ppb	n/a	30 ppb	5.1 ppb - 37 ppb	Monthly	✓	By-product of drinking water disinfection
<b>Microbiological Contaminants</b>							
Total Coliforms	presence of Coliform bacteria in $\geq$ 5% of monthly samples		0 (< 1/100 mls)	1.7%	0 - 1.7% positive samples per month		Daily
Total Organic Carbon	removal ratio <sup>3</sup> (25% required)		TT	48%	40% - 59% removed		Monthly
Turbidity	TT NTU	TT NTU	0.4 NTU <sup>4</sup>	99.98% lowest monthly % meeting 0.3 NTU		Daily	✓
<b>Radiological Contaminants</b>							
Beta Particle & Photon Radioactivity	50 pCi/L	0 pCi/L	7.1 pCi/L <sup>5</sup>	3.8 pCi/L - 8.6 pCi/L	Annually	✓	Decay of natural and man-made deposits
Gross Alpha Particles	15 pCi/L	0 pCi/L	0.9 pCi/L	ND(0.2) pCi/L - 0.9 pCi/L	Annually	✓	Erosion of natural deposits
Radium-226	5 pCi/L	0 pCi/L	0.3 pCi/L	ND(0.1) pCi/L - 0.3 pCi/L	Annually	✓	Erosion of natural deposits

- WaterOne is required to maintain a minimum residual of 1.0 ppm throughout our 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, 4.5 ppm, was an instantaneous reading.
- Data from 2010 when we conducted sampling according to the required "reduced monitoring schedule". This value is the 90th percentile result. The 95th percentile value for lead is 5.7 ppb & the 95th percentile value for copper is 0.019 ppm.
- The monthly TOC removal ratio is calculated as the ratio between the actual TOC removal and the TOC rule removal requirements.
- This is the highest turbidity measurement for 2010. 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.
- EPA considers 50 pCi/L to be the level of concern for beta particles.

\*Result is estimated due to presence of the chemical of interest in the quality control samples. Estimate may be biased high.

\*\*This value is for "total cyanide", the regulation only applies to "free cyanide", which may make up a fraction of the total concentration.