

We are very pleased to provide you with this year's Annual Water Quality Report. We want to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is and always has been, to provide you a safe and dependable supply of drinking water.

The Shawnee Municipal Authority routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st, 2011. (Some of our data may be more than one year old because the state allows us to monitor for some constituents less often than once per year.) All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

### Source of Drinking Water

Our water source is surface water drawn from Shawnee Twin Lakes and Wes Watkins Reservoir. An analysis of contamination susceptibility of our source water has been done. The analysis showed that our water's susceptibility to contamination is HIGH (All surface water is considered to have a high susceptibility to contamination). [This plan is available for viewing in our office. Information such as potential sources of contamination are in the plan.]

Contaminants that may be present in source water include: - microbes (viruses and bacteria), inorganics (salts and metals), pesticides and herbicides (which may come from a variety of sources such as agriculture, storm water runoff, and residential uses), organic chemicals (by-products of industrial processes and petroleum production), storm water runoff, and septic systems, radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

### Customers with Health Concerns

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, people 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.

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 at (800-426-4791).

This report shows our water quality and what it means. If you have any questions about this report or concerning your water utility, please contact Steve Nelms at the City of Shawnee Water Treatment Plant at 405-273-0890.

We want our valued customers to be informed about their water utility.

If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the 1st and 3rd Monday of each month at 6:30 pm. Meetings are held in the City of Shawnee City Hall Commission Chambers located at 16 W 9th Street.



# ANNUAL WATER QUALITY REPORT 2012

SHAWNEE  
MUNICIPAL  
AUTHORITY



# Shawnee Municipal Authority Water Quality Test Results 2012

Detected Contaminants	Units	MCLG	MCL	Compliant		Source of Contaminant
<b>Coliform Bacteria</b> Total Coliform	N/A	N/A	N/A	YES	<b>Positive Sample</b> 1	Naturally present in the environment
<b>Lead &amp; Copper</b> Copper	ppm	1.3	AL= 1.3	YES	<b>90<sup>th</sup> Percentile=</b> 0.066	Corrosion of household plumbing; Erosion of natural deposits
Lead	ppb	0	AL=15	YES	<b>90<sup>th</sup> Percentile=</b> 14	Corrosion of household plumbing; Erosion of natural deposits
<b>Disinfection by-products</b> Chlorite	ppm	0.8	1	YES	<b>range detected</b> 0 - 0.858 <b>highest detected</b> 0.858	By-product of drinking water chlorination
Haloacetic Acids	ppb	No Goal	60	YES	<b>range detected</b> 1.77 - 23.4 <b>highest detected</b> 17	By-product of drinking water chlorination
Total Trihalomethanes	ppb	No Goal	80	YES	<b>range detected</b> 18.6-52.7 <b>highest detected</b> 35	By-product of drinking water chlorination
<b>Inorganic Contaminants</b> Barium	ppm	2	2	YES	<b>range detected</b> 0.146 - 0.146 <b>highest detected</b> 0.146	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	ppm	4	4.0	YES	<b>range detected</b> 0.3 - 0.3 <b>highest detected</b> 0.3	Erosion of natural deposits; additive for strong teeth, discharge from fertilizer & aluminum factories
Nitrate (measured as nitrogen)	ppm	10	10	YES	<b>range detected</b> 0.26-0.26 <b>highest detected</b> 0.26	Runoff from fertilizer, leaching from septic tanks, sewage; erosion of natural deposits
<b>Radioactive Contaminants</b> Combined Radium 226/228	pCi/L	0	5	YES	<b>range detected</b> 0.3 - 0.3 <b>highest detected</b> 0.3	Erosion of natural deposits
<b>Clarity</b> Turbidity	NTU	N/A	N/A	YES	<b>highest</b> 0.99 NTU <b>lowest monthly %</b> 97.85%	Soil runoff
<b>Total Organic Carbon</b>	The percentage of Total Organic Carbon (TOC) removal was measured each month & the system met all TOC removal requirements set.					

Not all sample results may have been used for calculating the Highest Level Detected, some results may be part of an evaluation to determine where compliance sampling should occur in the future.

**Barium.** Some people who drink water containing barium in excess of the MCL over the years could experience an increase in blood pressure. **Chlorite.** Some children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some may experience anemia. **Copper.** Some people who drink water containing copper in excess of the action level over a short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver/kidney damage. People with Wilson's Disease should consult their doctor. **Fluoride.** Some who drink water with fluoride in excess of the MCL over many years could get bone disease. Children may get mottled teeth. **Lead.** Children who drink water containing lead in excess of the action level could experience delays in physical or mental development. Adults who drink this water over many years could develop kidney problems or high blood pressure. **Turbidity.** Has no health effects. It can interfere with disinfection & provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms, including bacteria, viruses, & parasites that can cause nausea, cramps, diarrhea, & headaches. **Haloacetic Acids.** Some who drink water in excess of the MCL over many years may have an increased risk of getting cancer. **Total Trihalomethanes.** Some who drink water containing excess of the MCL over the years may experience problems with liver, kidneys, or nervous system, & may have an increased risk of getting cancer. **Total Coliform.** Bacteria that are naturally present in the environment & are an indicator that other, potentially- harmful, bacteria may be present. Coliforms were found in more samples than allowed & this was a warning of potential problems. **Total organic carbon.** Has no health effects. However, it provides a medium for the formation of disinfection byproducts. Drinking water containing these byproducts in excess of the MCL may lead to health effects, liver, or kidney problems, or nervous system effects, & may lead to an increased risk of getting cancer.

## 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 that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. **MRDL:** Maximum residual disinfectant level. **ppb:** micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water. **Avq:** Regulatory compliance with some MCLs are based on running annual average of monthly samples. **ppm:** milligrams per liter or parts per million - or one ounce in 7,350 gallons of water. **NTU:** Nephelometric Turbidity Units ( a measure of clarity) **CFU:** Colony Forming Units **AL:** Action Level. The concentration of a contaminant which, if exceeded, triggers treatment or requirements which a water system must follow. **pCi/L:** Picocuries Per Liter. A unit of measure for levels of radon gas.