

HAAs [Haloacetic Acids]. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

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MCLs are set at very stringent levels. To put into perspective the possible negative health effects described above, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a million chance of having the described health effects. Please note that drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Additional information concerning the presence of contaminants in drinking water and their potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline: **1-800-426-4791**.

The sources of drinking water (both tap 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 and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water before we treat it 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 and residential uses.

**Radioactive contaminants*, which are naturally occurring.

**Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic tanks.

Summary: To comply with Federal Safe Drinking Water Act amendments, the City of Sand Springs will be annually issuing a report on the monitoring performed on its drinking water. The purpose of this report is to help customers make informed choices that affect the health of themselves and their families and to let consumers know what is in their water and where that water comes from.

For the 2016 calendar year (2017 results will be published in 2018), the limit for Total Coliform was not exceeded. All other contaminants present were detected in trace amounts well below the Federal MCLs. Their presence does not necessarily indicate that the water poses a health threat.

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 microbiological contaminants are available from the Safe Drinking Water Hotline: **1-800-426-4791**.

Sand Springs is fortunate to have its own water sources at Skiatook and Shell Creek lakes, and its own treatment and distribution system. This assures our community will have adequate supplies of high quality drinking water for many decades to come. City employees are committed to providing our 13,000 residential and commercial customers with drinking water that meets or exceeds state and federal standards. Investments are continually being made to upgrade the water treatment process, as well as the storage tanks, pumps and piping systems needed to deliver it to customers throughout our 150-square-mile service area.

From the Public Works Department
of the City of Sand Springs

Elizabeth A. Gray, MPA
City Manager

KDW/ECA

The City of Sand Springs'



2016

Annual Drinking Water Quality Report

We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality of water and services we deliver to you every day. Our constant goal is to provide you a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to insuring the quality of your water.

Our water sources are Shell Lake and Skiatook Lake.

If you have any questions about either drinking water report or concerning your water utility, please contact Ken Boswell, Division Supervisor at **918-246-2500 x2692**.

The City of Sand Springs routinely monitors for constituents in your drinking water according to Federal and State laws. We are pleased to report that our drinking water is safe and meets Federal and State requirements. The following table shows the results of our monitoring for the period January 1st to December 31st, 2016. 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.

SAND SPRINGS POTABLE WATER SUPPLY TEST RESULTS 2016

Contaminant	Violation Yes / No	Highest Level Detected	Range Detected	MCL	MCLG	Likely Source of Contamination
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Microbiological Contaminants

Total Coliform Bacteria (System takes <40 monthly samples)	No	2	NA	0 positive	0	Naturally present in the environment
Turbidity (NTU)	No	0.15 100%	0.05-0.15 NA	TT=1NTU TT<0.3	NA	Soil runoff

Radioactive Contaminants

Radium 226 & 228 (pCi/L)	No	0.47/0.35	NA	0	5	Decay of natural & manmade deposits
Gross Alpha (pCi/L)	No	0	NA	15	NA	Erosion of natural deposits

Inorganic Contaminants

Lead (ppm)	No	<0.005	<0.005- <0.005	AL=15	0	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Copper (ppm)	No	0.8	0.01-0.8	AL=1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Nitrate/Nitrite (ppm) (as Nitrogen)	No	0.24	NA	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	No	24.1	24.1-24.1	NA	NA	Naturally occurring; urban stormwater runoff; sewage treat. plant discharge
Fluoride (ppm)	No	1.1	0.36-1.1	4	4	Erosion of natural deposits; water additive which promotes strong teeth.

Volatile Organic Contaminants

Volatile Organic Contaminants (ppb)	No	10.1	<0.005 - 10.1	80	0	By-products of water chlorination
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Stage 2 Disinfection Byproducts

	Number of Analyses	Minimum Level Detected	Highest Level Detected	Stage 2 DBP Rule requires some systems to complete an Initial Distribution System Evaluation (IDSE) to characterize DBP levels in their distribution systems and identify locations to monitor DBPs for Stage 2 DBP Rule compliance. Table at the left summarizes the individual sample results for the IDSE monitoring in 2015. [MCL = 80 TTHM; 60 HAA; MCLG = NA.]
Total trihalomethanes [TTHM] (ppb)	4	37.9	54.1	
Haloacetic Acids [HAA] (ppb)	4	7.4	21.8	

In this table you will find many terms and abbreviations, some of which might not be familiar to you. To help you better understand these terms we've provided the following definitions:

Liters per milligram-meter (L/mg-m)

Parts per million (ppm) - parts of contaminant per million parts of water.

Parts per billion (ppb) - parts of contaminant per billion parts of water.

Picocuries per liter (pCi/L) - is a measure of the radioactivity in water.

Maximum Contaminant Level (MCL) - is the highest level of a contaminant that is allowed in drinking water.

Maximum Contaminant Level Goal (MCLG) - is 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.

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

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

Microbiological Contaminants:

Total Coliform. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. Two sample's results indicated the presence of coliform bacteria. Later testing at the resident's water meter, at the same site, showed no coliforms were present. It was determined that the original sample site was no longer appropriate due to reduced water usage. Therefore, a new sampling site was selected nearby, which is representative of that distribution area. This change in sample site was approved by the ODEQ.

Turbidity. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

Radioactive Contaminants:

Radium 226 & 228. Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

Gross Alpha emitters. Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer. Please note that the alpha level was well below the MCL.

Inorganic Contaminants:

Lead. Infants and children who drink water containing lead in excess of the Action Level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Copper. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short period 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 or kidney damage. People with Wilson's Disease should consult their personal doctor regarding possible negative health effects.

Nitrate/Nitrite. Infants below the age of six months who drink water containing nitrate/nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

Volatile Organic Contaminants:

TTHMs. [Total Trihalomethanes]. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.