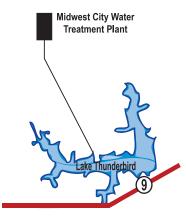
## WHERE DOES YOUR WATER COME FROM?

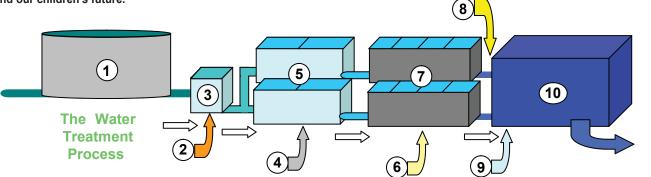


Midwest City's water supply comes from two sources: Lake Thunderbird and the Garber-Wellington aquifier. Most of Midwest City's water supply comes from Lake Thunderbird which is operated by the Central Oklahoma Master Conservatory District (COMCD). Lake Thunderbird was constructed in 1962 for flood control, recreation and as a water supply for Midwest City, Del City and Norman. COMCD pumps the water to the Midwest City Water Treatment Plant through a 19 mile long pipeline.

Midwest City's Water Treatment Plant was originally built in 1966 and could treat 6 million gallons per day (MGD). The plant was expanded in 1985 to its present capacity of 13 MGD. The plant operates 24 hours a day, 7 days a week to provide water to the residents of Midwest City. All employees at the Water Treatment Plant are required to undergo hours of approved training to obtain licenses from ODEQ. The operators, lab and maintenance personnel of Midwest City are some of the most experienced and highly trained personnel in the state. The Treatment plant and its employees are regularly nominated for awards from the Oklahoma Water Pollution Control Association (OWPCA) for superior performance and dedication.

The City of Midwest City operates 22 active water wells that act as supplemental water supply for times of high water demand. Half of these wells pump into a pumping station that once served as Midwest City's main supply. The other half of these wells pump directly into the distribution system. Midwest City maintains a reserve water supply made up of water towers and holding tanks of just under 10 million gallons. Coupled with emergency electric generators at the Water Treatment Plant, Midwest City is able to deliver water continuously even during power outages and disaster.

We work continually to provide high quality water to every tap. In order to maintain a safe and dependable water supply, we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. We ask that all of our customers help us conserve and protect our water resources, which impact our present lifestyle and our children's future.



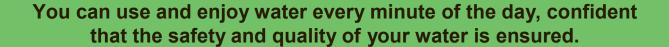
- 1. Regulating Tank Raw water pumped from Thunderbird is held in elevated storage tanks to provide gravity flow through the plant.
- 2. Coagulation Chemicals are added to the water which causes very fine particles to clump together.
- 3. Flash Mix Motors mix the chemicals and water together to ensure an even distribution throughout.
- 4. Stabilization and Supplemental Treatment - Chemicals are added to the water to prevent corrosion of the distribution piping.

Chemicals can also be added to control taste and order or to aid in the coagulation, flocculation and sedimentation processes.

- 5. Flocculation and Sedimentation -Midwest City uses up-flow clarifiers which combine the flocculation (gathering together of small particles) and sedimentation processes.
- 6. Applied Disinfection Chlorine Dioxide is added to the water to oxidize and disinfect materials and microbes in the water.
- 7. Filtration Water is passed through special filters made of sand, gravel and coal. These filters remove the

small particles that were not removed during the sedimentation process.

- 8. Final Disinfection Chlorine is added to the water to kill any microorganisms. including disease causing bacteria. Chlorine gas leaves a residual which protects the water as it flows through the distribution system.
- 9. Fluoridation A small amount of Fluoride is added to help prevent cavities in children.
- **10. Storage and Pumping Finished** water is held in holding tanks at the treatment plant until it is pumped to your tap.





water quality and services we deliver to you every day. your drinking water.

# **For More Information**

Here are some helpful numbers if you have questions regarding your water quality, billing, service or if you have a water emergency.

Water Quality Questions:

**Billing/Customer Service:** 

Water Emergency: After Hours (5pm - 8am):

Español: Este informe contiene información importante acerca de su aqua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.



The Midwest City Public Works Administration is pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the

Our goal is to provide you with 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

> (405) 739-1397 (405) 739-1252 (405) 739-1254 (405) 739-1397 (405) 739-1383



## **Special Information For People With Health Concerns**

#### All Drinking Water May Contain Contaminants

The sources of drinking water (both tap water 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.

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 **Safe Drinking Water Hotline**:

### 1(800) 426-4791

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 systems.

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. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 Water Drinking Hotline:



#### Long Term 2 Enhanced Surface Water Treatment Rule

Our source water was sampled 24 times in 2008, and Cryptosporidium was detected in 0 of 24 samples. We have to provide additional treatment if Cryptosporidium is found at greater than 0.075 oocyst per liter. We believe it is important for you to know that Cryptosporidium may cause serious illness in 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. These people should seek advice from their health care providers. Initial sampling results indicate that the current source is free of cryptosporidium. As required by EPA, we will continue to monitor for cryptosporidium.

## Stage 2 Disinfection Byproducts Rule

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. The following table summarizes the individual sample results for the IDSE monitoring in 2008:

Contaminant	Number of Analyses	Minimum Level Detected	Highest Level Detected		
Haloacetic Acids (HAA5) (ppb)	96	BPQL	108		
Total Trihalomethanes (TTHM) (ppb)	96	2.09	239		

The data listed in this table is preliminary and is not included in the Stage 1 Disinfection Byproducts Rule, which is given in the table below.

#### MPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Our water system violated a drinking water standard over the past year. Even though this was not an emergency, as our customers, you have a right to know what happened and what we did to correct this situation.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 2005 we did not monitor for synthetic organic compounds and therefore cannot be sure of the quality of our drinking water during that time.

The table below lists the contaminant we did not properly test for during the last year, how often we are supposed to sample, how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date on which follow-up samples were taken.

Contaminant	Required sampling frequency		When sample should have been taken	When samples were or will be taken	
Synthetic Organic Compounds	4 Samples every 3 years	2	2005	October 2008	

Midwest City relies on the Oklahoma Department of Environmental Quality's laboratory to perform the water analysis for Synthetic Organic Compounds. Sampling protocol requires the testing laboratory prepare and deliver the sampling kit. Midwest City personnel never received the sampling kit for 2005 and were unaware of the sampling requirement until the Notice of Violation was received in September 2008. However, samples for Synthetic Organic Compounds were taken as required in 2007. The 2005 samples were taken in October 2008, and all parameters were below the Maximum Contaminant Level.

## Definitions

In the following table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

**BPQL** - Below Practical Quantification Levels

Parts per million (ppm) or Milligrams per liter (mg/l)

Parts per billion (ppb) or Micrograms per liter (ug/l)

Parts per trillion (ppt) or Nanograms per liter (nanograms/l)

Parts per quadrillion (ppq) or Picograms per liter (picograms/l)

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

Millirems per year (mrem/yr) - measure of radiation absorbed by the body.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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 treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level (MCL) - The MCL is 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.

Maximum Contaminant Level Goal - The 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.

#### Midwest City Water Quality Summary 2008

The City of Midwest City 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, 2008 (unless otherwise stated). The presence of contaminants does not necessarily indicate that water

Substance	Units	MCLG	MCL	Water Treatment Plant	Wells	Violation	Major Sources in Drinking Water
					c Contamin	ants	
Lead	ppb	0	AL = 15	90th Percentil 3.22 # of Samples Exc 0	e 2007*	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper	ppm	0	AL = 1.3	90th Percentil 0.129 # of Samples Exc 0		No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	ppm	4	4	Avg. Level Detec 0.93 Range Detecter <0.4 - 1.	<0.4 d in 2008	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate + Nitrite [measured as Nitrogen]	ppm	10	10	Avg. Level Detec 0.36 Range Detecte 0.1 - 0.4	d in 2008	No	Runoff from fertilizer use; leaching form septic tanks, sewage; erosion of natural deposits
Barium	ug/L	2000	2000	Avg. Level Detected 415.92 Range Detected 257-49	d in 2006*	No	Discharge from drilling waste; discharge from metal refineries; erosion of natural deposits
Chromium	ug/L	100	100	Avg. Level Detector 1.08 Range Detector ND - 14	d in 2006*	No	Discharge from steel and pulp mills; erosion of natural deposits
				Radiologic	al Contami	nants	

Alpha emitters	pCi/L	0	15	Avg. Level Detected in 2006* 3.880 Range Detected in 2006* 0 - 5.6		No	Erosion of natural deposits
Combined Radium (226 & 228)	pCi/L	0	5	Avg. Level Detected in 2006* 0.533 Range Detected in 2006* 0.1 - 3.7		No	Decay of natural and man-made deposits
				Disinfe	ection By-Produ	cts	
Total Trihalomethanes (TTHMs)	ppb	0	80 (RAA)	Range Dete 1.1 Running Annua	Range Detected in 2008*           1.1 - 185.1           Running Annual Average (RAA)           29		By-Product of drinking water chlorination * Quarterly Average
Haloacetic Acids (HAA5)	ppb	0	60 (RAA)	Range Detected in 2008* 1 - 82 Running Annual Average (RAA) 16.06		No	By-Product of drinking water chlorination * Quarterly Average
Chlorite	ppb	800	1000	Range Detected in 2008* 14.5 - 290 Running Annual Average (RAA) 100		No	By-Product of drinking water chlorination * Quarterly Average
Precursor Removal Total Organic Carbon (TOC)	TT	NA	TT = Ratio must be greater than or equal to 1.00 for compliance			No	Naturally occurring
				Microbio	logical Contami	nants	
Total Coliform	% negative samples/month	100%	95%	100.00%	100.00%	No	Naturally present in the environment
Fecal Coliform	% negative samples/month	100%	100%	100.00%	100.00%	No	Human and animal fecal waste
Turbidity	NTU % <0.3	100%	< 0.3 NTU in more than 95% of samples	Monthly Lowest % < 0.3 NTU           96.8%         96.8%           Highest Single Reading 2008         No           0.38         0.38		No	Soil runoff
** The state allows us to monitor for some contaminants	s less than once pe	r year because the conc	entrations do not change freq	uently. Some of our d	ata, though representative	, are more tha	an one year old.
*** TOC Removal is not required for ground water							n day at the MOL level for a lifetime to have a significant increased risk of having the described health offer

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a significant increased risk of having the described health effect.