



Public Works Administration

INFORMATION ON YOUR **DRINKING WATER**

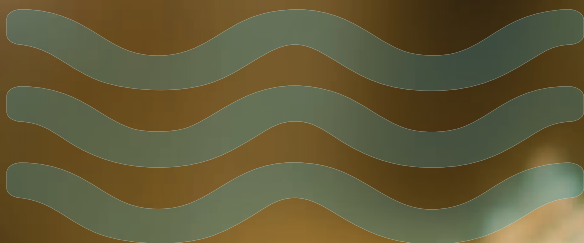
2018 Water Quality Report

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

The City of Midwest City Works Hard to Provide High Quality Water for You

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 water quality and services we deliver to you every day.

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 your drinking water.



Where Does Your Water Come From?



Midwest City's water supply comes from two sources: Lake Thunderbird and the Garber-Wellington aquifer. 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.

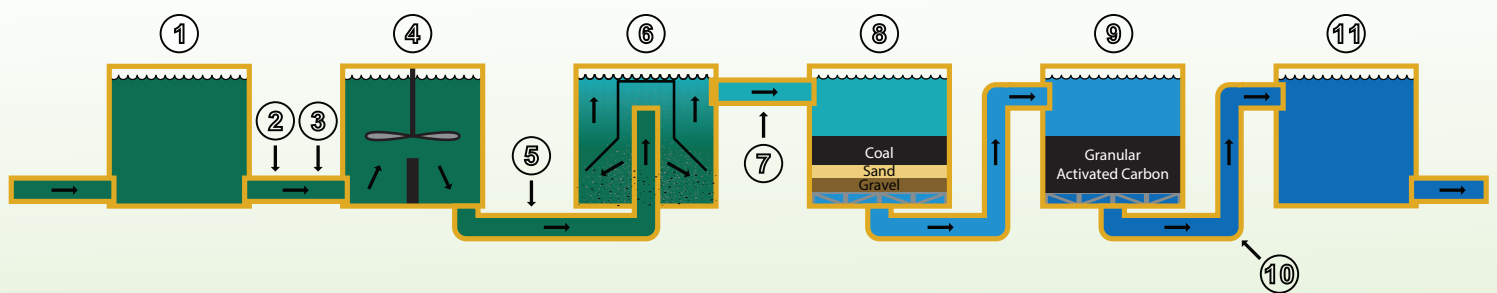
Midwest City's Water Treatment Plant was originally built in 1966 and could treat 6 million gallons per day (MGD). The plant was expanded in 1985 to its present capacity of 13 MGD. The plant operates 24 hours a day, 7 days a week to provide water to the residents of Midwest City. All employees at the Water Treatment Plant are required to undergo

hours of approved training to obtain licenses from Oklahoma Department of Environmental Quality. 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.

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.



How is Midwest City's water treated?



- 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. Fluoridation** - A small amount of fluoride is added to help prevent cavities in children.
- 4. Flash Mix** - Motors mix the chemicals and water together to ensure an even distribution throughout.
- 5. 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 odor or to aid in the coagulation, flocculation and sedimentation processes.
- 6. Flocculation and Sedimentation** - Midwest City uses up-flow clarifiers which combine the flocculation (gathering together of small particles) and sedimentation processes.
- 7. Applied Disinfection** - Chlorine Dioxide is added to the water to oxidize and disinfect materials and microbes in the water.
- 8. 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.
- 9. Secondary Filtration** - Using granular activated carbon for removal of organic compounds and taste and odor control.
- 10. 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.
- 11. Storage and Pumping** - Finished water is held in holding tanks at the treatment plant until it is pumped to your tap.

*You can use and enjoy water every minute of the day,
confident that the safety and quality of your water is ensured.*

Why are there contaminants in my drinking water?

The sources of drinking water (both tap water and bottled water) included 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. Please contact us to obtain more information about a source water assessment and its availability.

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 EPA's Safe Drinking water Hotline (800-426-4791).

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.

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, livestock operations and wildlife. Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water 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 storm water run-off, agriculture, and residential users.
- **Radioactive contaminants** which can be naturally occurring or the result of mining activity.
- **Organic contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and also come from gas stations, urban storm water run-off, and septic systems.

In order to ensure that tap water is safe to drink, EPA prescribes regulation which limits the amount of certain contaminants in water provided by public water systems. We treat our water according to EPA's regulations, Food and Drug Administration 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.

Immuno-compromised persons such as those 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 (800-426-4791).



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For more information regarding this report contact
Mark Roberts at 405-739-1383

Table Definitions

Maximum Contaminant Level Goal (MCLG): the "Goal" is the level of a contaminant in drinking water below which there is no known or expected risk to human health. MCLGs allow for a margin of safety.

Maximum Contaminant Level (MCL): the "Maximum Allowed" 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.

Secondary Maximum Contaminant Level (SMCL): recommended level for a contaminant that is not regulated and has no MCL.

Action Level (AL): the concentration of a contaminant that, if exceeded, triggers treatment or other requirements.

Treatment Technique (TT): a required process intended to reduce levels of a contaminant in drinking water.

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.

Non Detects (ND): lab analysis indicates that the contaminant is not present,

Parts per Million (ppm) or milligrams per liter (MG/L)

Parts per Billion (ppb) or micrograms per liter (ug/l)

Picocuries per Liter (pCi/L): a measure of the radioactivity in water.

Millirems per Year (mrem/yr): measure of radiation absorbed by the body.

Monitoring Period Average (MPA): An average of sample results obtained during a defined time frame, common examples of monitoring periods are monthly, quarterly and yearly.

Nephelometric Turbidity Unit (NTU): a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person, Turbidity is not regulated for groundwater systems.

Running Annual Average (RAA): an average of sample results obtained over the most current 12 months and used to determine compliance with MCLs.

Locational Running Annual Average (LRAA): Average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

Monitoring and Reporting (M/R): a violation for failure to conduct regular monitoring of drinking water quality or to submit monitoring results in a timely fashion.

Operational Evaluation Level (OEL): a report triggered by the disinfection byproducts rule.



Midwest City Water Quality Summary 2018

The following tables list all of the drinking water contaminants which were detected during the 2018 calendar year. The presence of these contaminants does not necessarily indicate the water poses a health risk. Unless noted, the data presented in this table is from the testing done January 1- December 31, 2018. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old,

Chlorine/Chloramines Maximum Disinfection Level	MPA	MPA Units	RAA Units
12/01/2018 – 12/31/2018	1.2	MG/L	MG/L

Total Organic Carbon Lowest Month for Removal	Number of Samples	Actual Removal Ratio	Required Removal Ratio	Lowest Monthly Removal Ratio
6/1/2018 – 6/30/2018			1 RATIO	0.08

Testing Results for: MIDWEST CITY

Please Note: Because of sampling schedules, results may be older than 1 year

Microbiological	Result	MCL	MCLG	Typical Source
No Detected Results were Found in the Calendar Year of 2018				

Regulated Contaminants	Collection Date	Highest Value	Range (low/high)	Unit	MCL	MCLG	Typical Source
BARIUM	12/4/2018	0.456	0.386 - 0.456	ppm	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
CHROMIUM	12/4/2018	6	5.2 – 6	ppb	100	100	Discharge from steel and pulp mills; Erosion of natural deposits.
DALAPON	3/26/2018	1.64	1.64	ppb	200	200	Runoff from herbicide used on rights of way
NITRATE-NITRITE	1/22/2018	0.41	0.12 - 0.41	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Fluoride/Collection	10/6/18	0.70	0.2 - 0.7	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth: discharge from fertilizer and aluminum factories.

Disinfection Byproducts	Monitoring Period	Highest RAA	Range (low/high)	Unit	MCL	MCLG	Typical Source
TOTAL HALOACETIC ACIDS	2018	23	1.3 - 18.6	ppb	60	0	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
(HAA5)	12/4/2018	62	2.37 - 61.8	ppb	80	0	Discharge from steel and pulp mills; Erosion of natural deposits.

Lead and Copper	Monitoring Period	90th Percentile	Range (low/high)	Unit	AL	Sites Over AL	Typical Source
LEAD	ND	ND	ND	ND	ND	ND	Corrosion of household plumbing systems; erosion of natural deposits
COPPER, FREE	2018	0.188	0.015 - 0.246	ppm	1.3		Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Your water system is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Radiological Contaminants	Collection Date	Highest Value	Range (low/high)	Unit	MCL	MCLG	Typical Source
COMBINED URANIUM	12/18/2018	3.8	1.2 - 3.8	ug/L	30	0	Erosion of natural deposits
GROSS ALPHA, EXCL. RADON & U	12/18/2018	7.1	3.83 - 7.1	pCi/L	15	0	Erosion of natural deposits

Secondary Contaminants – Non-Health Based Contaminants–No Federal Maximum Contaminant Level (MCL) Established.	Collection Date	Highest Value	Range (low/high)	Unit	SMCL
ALKALINITY, TOTAL	2/12/2018	168	168	MG/L	
CARBON, DISSOLVED ORGANIC (DOC)	2/12/2018	4.26	4.26	MG/L	
CARBON, TOTAL	2/12/2018	4.37	4.37	ppm	1
CHLORITE	10/2/2018	0.0823	0.0401 - 0.0823	ppm	
SODIUM	3/22/2018	13.5	8.71 - 13.5	MG/L	
UV ABSORBANCE @254 NM	2/12/2018	0.05	0.05	CM-1	

During the 2018 calendar year, we had the below noted violation(s) of drinking water regulations.

Compliance Period	Analyte	Comments
No Violations Occurred in the Calendar Year of 2018		

Additional Required Health Effects Language: Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.