

2016 City of Waco Water Quality Report



BUILDING WACO

building, repairing and

replacing vital infrastructure



ABOUT THIS REPORT

City of Waco drinking water meets or exceeds all federal (EPA) and state drinking water requirements. The City of Waco Water Utility Services Department (Public Water System #1550008) is proud to maintain a **Superior** rating from the Texas Commission on Environmental Quality (TCEQ) for water quality.

This report is a summary of the quality of the water we provided our customers during 2016. The analysis was made by using data from the most recent U.S. Environmental Protection Agency (EPA) required tests. Our goal is that this information will help you become more knowledgeable about what's in your drinking water.

The tables that follow (pp. 3-5) list all of the federally regulated and/or monitored contaminants that have been found in your drinking water. The U.S. EPA requires water systems to test for up to 97 different contaminants.

Where Does Our Water Come From?

Our drinking water is 99% surface water with less than 1% coming from ground water sources. The primary source of drinking water for residents of the City of Waco and surrounding communities is Lake Waco, with less than 1% coming from the Trinity Aquifer.

Source Water Assessment and Protection

The TCEQ completed an assessment of our source water and results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for our water system are based on this susceptibility and previous sample data. Any detections of these contaminants may be found in this report. For more information on source water assessments and protection efforts in our system, contact the City of Waco Water Quality Lab at, (254) 750-1662.

Special Notice

You may be more vulnerable than the general population to certain microbial contaminants, such as Cryptosporidium, in drinking water. Infants, some elderly or immunocompromised, such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders can be particularly at risk for infection. You should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline at (800) 426-4791.

En Español

Este reporte incluye informacion importante sobre el agua para tomar. Si tiene preguntas o comentarios sobre este informe en español, favor de llamar al (254) 299-2489 para hablar con una persona bilingüe en español.

Abbreviations

NTU -	Nephelometric Turbidity Units (a measure of turbidity)
MFL -	million fibers per liter (a measure of asbestos)
pCi/L -	picocuries per liter (a measure of radioactivity)
ppm -	parts per million, or milligrams per liter (mg/L), or one ounce in 7,350 gallons of water
ppb -	parts per billion, or micrograms per liter (µg/L), or one ounce in 7,350,000 gallons of water
ppt -	parts per trillion, or nanograms per liter (ng/L)
ppq -	parts per quadrillion, or picograms per liter (pg/L)
mrem -	millirems (a measure of radiation absorbed by the body)

Definitions

Maximum Contaminant Level (MCL) - Highest permissible level of a contaminant in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

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

Maximum Residual Disinfectant Level (MRDL) - The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) - The level of a 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 contamination.

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

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

Level 1 Assessment - A study of the water system to identify potential problems and determine (if possible) why total coliform bacteria were found.

Level 2 Assessment - A very detailed study of the water system to identify potential problems and determine (if possible) why an *Escherichia coli* (E. coli) maximum contaminant level (MCL) violation has occurred and/or why total coliform bacteria were found on multiple occasions.

Drinking Water Standards

In order to ensure that tap water is safe to drink, the EPA prescribes regulations that 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 that must provide the same protection for public health.

Water Sources

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. Contaminants that may be present in source water before treatment 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 by-products 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

All Drinking Water May Contain Contaminants

When drinking water meets federal standards, there may not be any health based benefits to purchasing bottled water or point of use devices. 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 (1-800-426-4791).

Secondary Constituents

Contaminants may be found in drinking water that may cause taste, color, and odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste, odor or color of drinking water, please contact Waco Water Utility Services.

Water Loss

In the water loss audit submitted to the Texas Water Development Board for the time period of January - December 2016, the City of Waco water system lost an estimated 1,098,663,683 gallons of water. This is 11% of all water taken into the system.

Water loss from a system occurs, primarily, due to leaks and line breaks, customer meter inaccuracy, data handling errors and unauthorized usage.

If you have any questions about the water loss audit, you may call: (254) 299-CITY (2489).

WACO WATER QUALITY TEST RESULTS

Inorganic Contaminants

COLLECTION DATE OR YEAR	CONTAMINANT	HIGHEST LEVEL DETECTED	MIN - MAX LEVELS	MCL/MCLG	UNITS	VIOLATION	LIKELY SOURCE OF CONTAMINATION
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2016	Arsenic	5.1	0 - 5.1	10	0	ppb	No	<i>Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes</i>
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While your drinking water meets EPA standards for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

2016	Barium	0.0772	0.0426 - 0.0772	2	2	ppm	No	<i>Decay of natural and man-made deposits</i>
2016	Cyanide	180	70 - 180	200	200	ppb	No	<i>Discharge from plastic and fertilizer factories; Discharge from steel/metal factories</i>
2016	Fluoride	1.22	0.57 - 1.22	4	4	ppm	No	<i>Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories</i>
2016	Nitrate	1.22	0.01 - 1.22	10	10	ppm	No	<i>Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits</i>
2016	Selenium	17.8	0 - 17.8	50	50	ppb	No	<i>Erosion of natural deposits; Discharge from petroleum and metal refineries; Discharge from mines</i>

Residual Disinfectant Level

COLLECTION DATE OR YEAR	DISINFECTANT	AVG LEVEL	MIN - MAX LEVELS	MRDL/MRDLG	UNITS	VIOLATION	LIKELY SOURCE OF CONTAMINATION
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2016	Chloramines	2.05	< 0.1 - 3.9	4.0	<4.0	ppm	No	<i>Disinfectant used to control microbes.</i>
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Disinfection Byproducts

COLLECTION DATE OR YEAR	CONTAMINANT	HIGHEST LEVEL DETECTED	MIN - MAX LEVELS	MCL/MCLG	UNITS	VIOLATION	LIKELY SOURCE OF CONTAMINATION
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2016	Bromate	3	0 - 17	10	0	ppb	No	<i>By-product of drinking water disinfection</i>
2016	Haloacetic Acids (HAA5)	18	6.6 - 38.9	60	No Goal	ppb	No	<i>By-product of drinking water disinfection</i>
2016	Trihalomethanes (THMs)	45	24.6 - 87.3	80	No Goal	ppb	No	<i>By-product of drinking water disinfection</i>

Radioactive Contaminants

COLLECTION DATE OR YEAR	CONTAMINANT	HIGHEST LEVEL DETECTED	MIN - MAX LEVELS	MCL/MCLG	UNITS	VIOLATION	LIKELY SOURCE OF CONTAMINATION
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2011	Radium /228	< 0	< 0	5	0	pCi/L	No	<i>Erosion of natural deposits</i>
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WACO WATER QUALITY TEST RESULTS (CONT)

Total Organic Carbon

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set.

Synthetic Organic Contaminants

COLLECTION DATE OR YEAR	CONTAMINANT	HIGHEST LEVEL DETECTED	MIN - MAX LEVELS	MCL/MCLG	UNITS	VIOLATION	LIKELY SOURCE OF CONTAMINATION	
2016	Atrazine	0.1	0 - 0.1	3	3	ppb	No	<i>Runoff from herbicide used on row crops</i>

Lead and Copper

Action Level Goal (ALG): The concentration of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

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

YEAR	CONTAMINANT	90TH PERCENTILE	SITES EXCEEDING ACTION LEVEL	MCLG	ACTION LEVEL	UNIT OF MEASURE	VIOLATION	LIKELY SOURCE OF CONTAMINATION
2015	Lead	3.1	0	0	15	ppb	No	<i>Erosion of natural deposits; Corrosion of household plumbing systems;</i>
2015	Copper	0.36	0	1.3	1.3	ppm	No	<i>leaching from wood preservatives</i>

HEALTH INFORMATION FOR LEAD

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. This water supply 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 are available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Turbidity

YEAR		LIMIT	LEVEL DETECTED	UNIT OF MEASURE	VIOLATION	LIKELY SOURCE OF CONTAMINATION
2016	Highest single measurement	1	0.2	NTU	No	<i>Soil Runoff</i>
2016	Lowest monthly % meeting limit	0.3	100%	NTU	No	<i>Soil Runoff</i>

Turbidity is a measurement of the cloudiness of water caused by suspended particles. It is a good indicator of water quality and the effectiveness of filtration.

Coliform Bacteria

YEAR	CONTAMINANT	HIGHEST MONTHLY PERCENTAGE OF POSITIVE SAMPLES	MCL/MCLG	VIOLATION	LIKELY SOURCE OF CONTAMINATION	
2016	Total Coliform Bacteria	2.7	5%	0%	No	<i>Naturally present in the environment</i>
2016	Fecal Coliform or E. Coli	0	0%	0%	No	<i>Naturally present in the environment</i>

WACO WATER QUALITY TEST RESULTS (CONT)

Unregulated Contaminants

COLLECTION DATE OR YEAR	CONTAMINANT	MIN - MAX LEVELS	METHOD DETECTION LIMIT (MDL)	UNITS	LIKELY SOURCE OF CONTAMINATION
2016	Chloroform	< MDL - 16	1.0	ppb	<i>By-product of drinking water disinfection</i>
2016	Bromodichloroform	< MDL - 15	1.0	ppb	<i>By-product of drinking water disinfection</i>
2016	Chlorodibromoform	< MDL - 11	1.0	ppb	<i>By-product of drinking water disinfection</i>
2016	Bromoform	< MDL - 1.5	1.0	ppb	<i>By-product of drinking water disinfection</i>

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Method Detection Limit (MDL) - The minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results.

How Much Should You Water Your Lawn?

Go to: www.WacoWater.com and click on **Weather Station**



This online tool will help you understand how much water your lawn actually needs. Input your type of grass, amount of shade and sprinkler flow. Taking that information, plus current conditions and recent rainfall into account, the system then calculates how long you need to run your sprinklers.

The Water Utilities-sponsored weather station is located at Cottonwood Creek Golf Course. The weather station and online network is part of the TexasET Network, a project in partnership with the Irrigation Technology Center of AgriLIFE Extension, a part of Texas A&M University.

Water Saving Tips

- Turn off the water while brushing your teeth
- Wash your pets outdoors, in an area of your lawn that needs water.
- Install water-saving aerators on all of your faucets.
- Put food coloring in your toilet tank. If it seeps into the bowl without flushing, there's a leak!
- Leave lawn clippings on your grass - this cools the ground and holds in moisture.
- Collect rain water from your roof to water plants.



BUILDING WACO - CAPITAL IMPROVEMENT

In 2016, the City of Waco initiated a 10-year Capital Improvement Program (CIP), which includes many individual water and wastewater projects. The Building Waco Capital Improvement Program is primarily focused on improving storage and pumping, decreasing water loss, and enabling increased conservation across the entire water system.

BUILDING WACO
building, repairing and replacing vital infrastructure

BUILDING FOR THE FUTURE

Airport Pump Station

- Increased Capacity
- Increased Reliability
- Energy Savings

\$2.4 Million
Fall/Winter 2017

WWW.BUILDINGWACO.COM

Design Engineer: **The Wallace Group**
Contractor: **Barsh Construction**

CITY COUNCIL

Kyle Dwyer	-Mayor
Wilbert Austin	-District 1
Alice Rodriguez	-District 2
John Kincaid	-District 3
Dillon West	-District 4
Jim Holmes	-District 5

Projects continue at a steady pace. To date, four large projects have been completed, including:

Water System Improvements - Warren Rd.

Life Care Water Line (near Hwy. 6 and Bosque Blvd.)

FM 1637 Water and Wastewater Line Relocations – Phase 1

Riverside Smokestack

Another 15 projects are currently in progress at various stages.

For more information about completed, current and future capital improvement projects, visit: www.BuildingWaco.com

WACOWATER.COM

Visit us online at www.wacowater.com. You can pay your bill, check current news about projects or service outages, find conservation tips, contact information and more. You can sign up for **e-bill and setup automatic recurring payments**, as well. Visit the website for more information.

Ways to pay your bill:

Online at: www.wacowater.com

At the City of Waco Water Office:

425 Franklin Avenue, Waco, Texas 76701

Lobby: (Mon-Fri) 9 a.m. to 5 p.m.

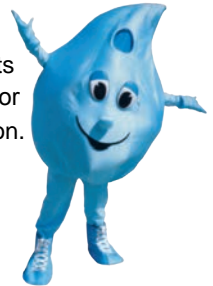
Drive-Thru: (Mon-Fri) 7:30 a.m. to 5:30 p.m.

By phone: **299-CITY (2489)**

At your Neighborhood HEB:

9100 Woodway Dr., 1301 Wooded Acres Dr., 801 N.

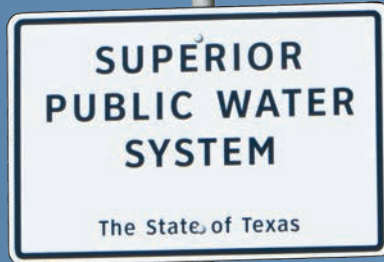
IH-35, 1821 S. Valley Mills Dr., 3801 N. 19th St.



Precious the Water Drop



City of Waco Water Utility Services
P.O. Box 2570
Waco, TX 76702-2570
(254) 299-CITY (2489)
www.wacowater.com



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For more information about this report, contact Jonathan Echols, (254) 750-8416