



2015

Water Quality Report





You depend on water every day of your life. It sustains your wellbeing. It is worth knowing the facts about your water. The City of Lubbock's 2015 Water Quality Report explains where your water comes from, what's in it, how it's treated and delivered and more.



Water delivered to you by the City of Lubbock is safe and meets or exceeds all regulatory requirements.

We post the report at **water.mylubbock.us**. This report, all data analyses, and summaries are based on data collected during the 2015 calendar year, unless noted otherwise.

The Water Department's mission is to plan for, protect, and preserve valuable water resources while providing high quality water and exceptional water services to our customers.

If you have questions about the 2015 Water Quality Report, please contact us at **water.mylubbock.us** or see the last page of this report for more contacts and consumer resources.



Call to request a printed copy of this report: **806-775-2586**



All About Your Water

Lubbock's Water Supply

Lubbock has a diversified water supply. Groundwater from the Ogallala Aquifer is supplied from the Roberts County Well Field (RCWF) and the Bailey County Well Field (BCWF) and accounts for 80% of Lubbock's water usage. Surface water is supplied by Lake Alan Henry (LAH) and Lake Meredith (LM) and accounts for 20% of the water usage.

● Roberts County Well Field (RCWF)

The Canadian River Municipal Water Authority (CRMWA) manages the RCWF. RCWF is located approximately 150 miles to the northeast of Lubbock. In 2015, the water customers of Lubbock used 7.73 billion gallons of water from this well field.

● Lake Alan Henry (LAH)

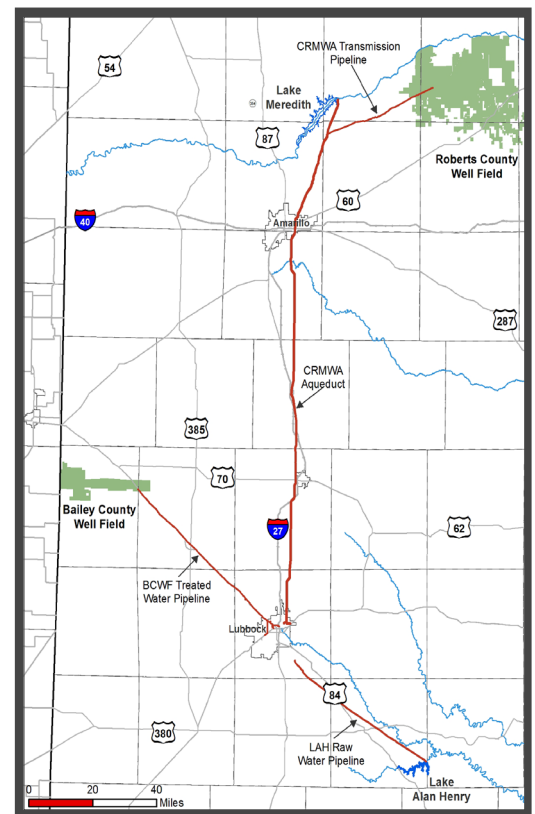
The City owned LAH, located approximately 65 miles southeast of Lubbock, has been in use since 2012. In 2015, the water customers of Lubbock used 1.70 billion gallons of water.

● Lake Meredith (LM)

The CRMWA manages Lake Meredith. LM is approximately 160 miles north of Lubbock. In 2015, the water customers used 0.28 billion gallons of water from LM.

● Bailey County Well Field (BCWF)

The City owned BCWF has been in use since the 1950s. BCWF is located approximately 75 miles northwest of Lubbock. In 2015, the water customers of Lubbock used 2.00 billion gallons of water from this well field.

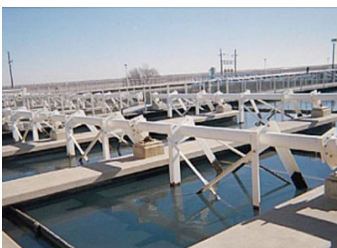
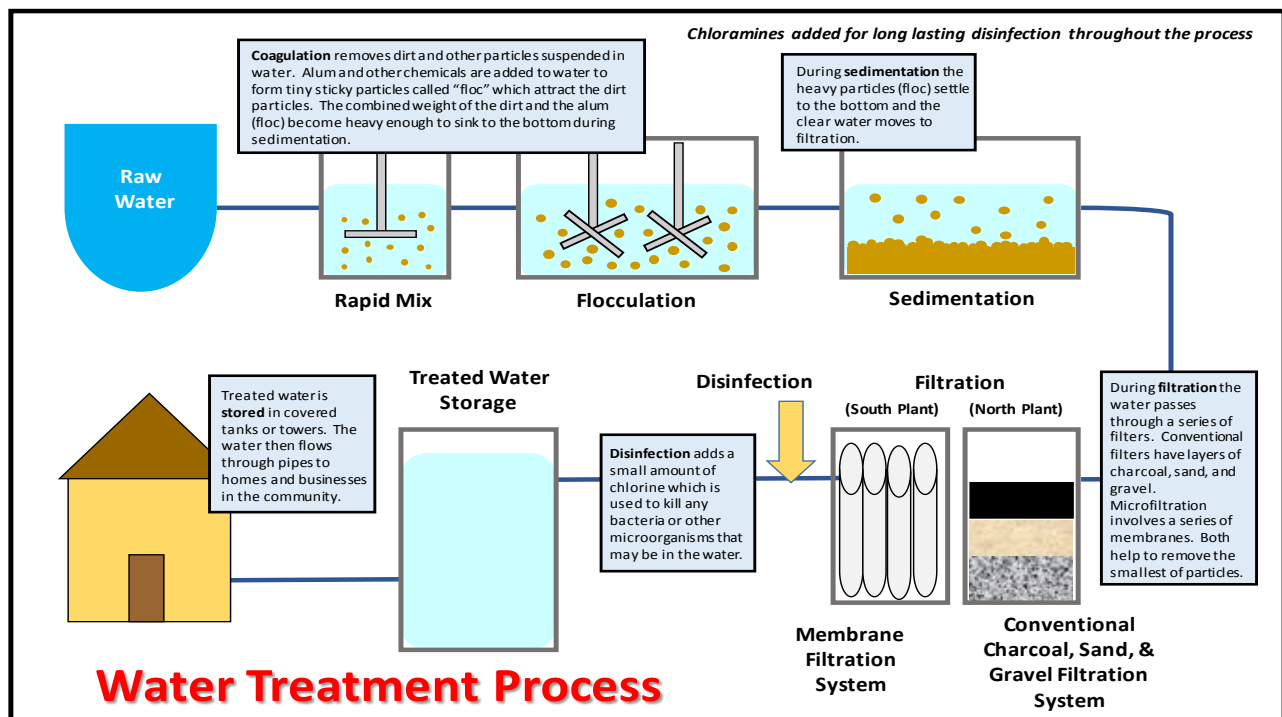


All About Your Water

Water Treatment Process

Your water goes through a treatment process that includes removing small debris, filtering, and disinfecting the water to meet drinking water quality standards. The City of Lubbock is committed to providing our customers with high quality drinking water.

The North Water Treatment Plant can treat up to 75 million gallons of water per day using a conventional filtration system. The South Water Treatment Plant can treat up to 15 million gallons of water per day using a membrane filtration system. Both plants operate on a continuous basis.





All About Your Water

Water Distribution

Once your water has been made safe to drink by moving through our Water Treatment Plants, the water is conveyed through our distribution systems so it can be delivered to your home and business located in our 125 square mile service area. The City of Lubbock has an extensive distribution system which includes 11 primary pump stations, 4 elevated towers and 13 ground tanks, and nearly 1,800 miles of underground pipes we call water mains - all designed to deliver water to our more than 83,000 service connections.

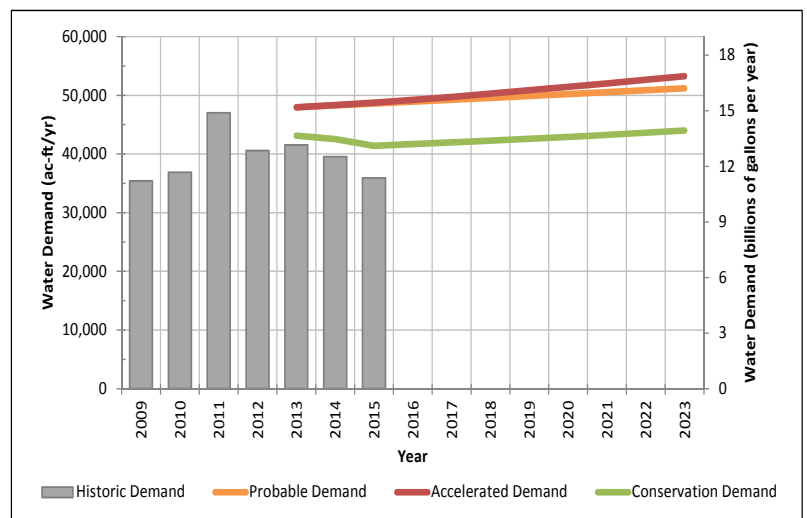
Strategic Water Planning

The 2013 Strategic Water Supply Plan created a “road map” for the City to use in developing and implementing water supply strategies over the next 100-year planning horizon. Even though the planning process is continuous, the City officially updates its Strategic Water Supply every five years. The plan is available online at:

<http://www.ci.lubbock.tx.us/departamental-websites/departments/water-department/strategic-water-supply>

The Plan estimated that we would use between 13 and 16 billion gallons of water in 2015. The City actually used 11.71 billion gallons of water which is less than 2014 and also less than the aggressive water conservation estimated demand. Thanks to you, we are stretching our water supplies and making every drop count.

This chart depicts three possible water demand scenarios (red, orange, and green lines) for Lubbock over the next ten years. The scenarios differ by population growth rate and level of water conservation. The grey bars depicts our actual water demand through 2015. Notice that in 2015 we used less water than projected for conservation (green line).









Water Conservation

Water conservation should be practiced at all times regardless of climatic conditions. The City's current conservation efforts include educating the public, implementing "waste of water" regulations, developing water rates that promote conservation, and irrigation inspections and consultations.

Every year from April 1 through September 30, the City implements the annual water conservation measures. These measures are outlined below.

ANNUAL WATER CONSERVATION MEASURES

-  No watering is allowed from 10:00 a.m. to 6:00 p.m. on any day from April 1 to September 30.
-  Irrigation must be applied without significant runoff.
-  Irrigate less than 1.5 inches of water per week.
-  Do not irrigate during precipitation or high wind events.



Drought Restrictions

The City has a Drought Contingency Plan that is implemented when drought triggers are met. Currently, the City is in Stage 1 drought restrictions due to Lake Meredith being lower than normal.

The City will remain in Stage 1 of the Drought Contingency Plan until the drought conditions improve for Lake Meredith.

STAGE 1 RESTRICTIONS

Landscape irrigation is allowed during **two** assigned days per week.

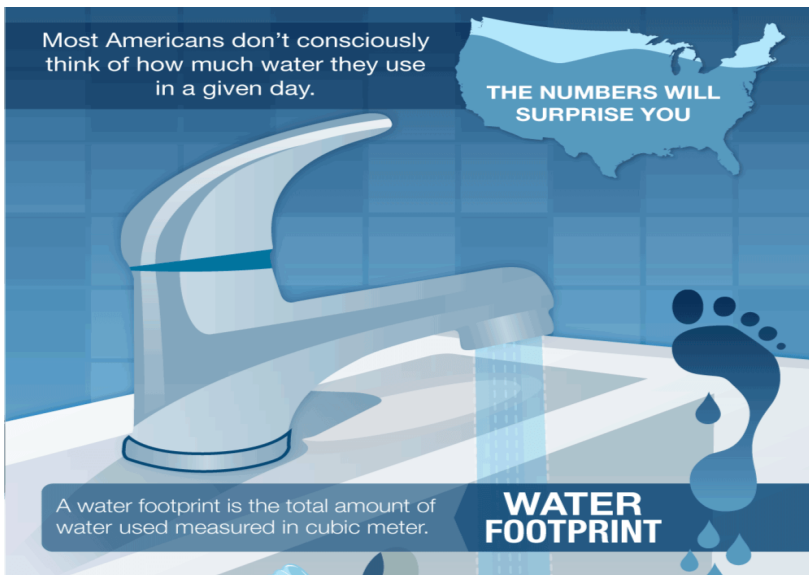
Irrigation schedules will be based on the last digit of the house address. Addresses ending in ...

0, 3, 4, or 9 water on Monday & Thursday
1, 5, or 6 water on Tuesday & Friday
2, 7, or 8 water on Wednesday & Saturday

Hand watering (physically holding the hose), drip systems, and soaker hoses are allowed any day at any time.

A variance application for new landscape material is available online at:
water.ci.lubbock.tx.us/waterrestrictions.aspx

All customers and city operations must adhere to these irrigation restrictions.



WHAT IS YOUR WATER FOOTPRINT?

People use a lot of water for drinking, cooking, and washing. However, they use even more for growing food and manufacturing clothing, cars, or computers. The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the businesses. For

example, 11 gallons of water are needed to irrigate and wash the fruit in a one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in the morning cup of coffee. Two hundred and sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef.

The water footprint allows us to answer a broad range of questions for companies, governments, and individuals. For example:

- ~ where is the water dependence in my company's operations or supply chain?
- ~ how well are regulations protecting our water resources?
- ~ how secure are our food and energy supplies?
- ~ can I do anything to reduce my own water footprint and help manage water wisely?

The water footprint accounts for both direct and indirect water use of a process, product, company, or sector and includes water consumption and pollution throughout the full production cycle from the supply chain to the end-user. The annual American per capita water footprint is estimated to be 59,840 gallons.

To check out your own water footprint, go to www.h2oconserve.org or visit www.waterfootprint.org.









Water Loss

In the water loss audit submitted to the Texas Water Development Board for the period of Jan. - Dec. 2015, our system lost an estimated 937,296,364 gallons of water out of 11,499,454,545 gallons that was used. This loss is 8.15% of our total water use. If you have any questions about the water loss audit please call (806) 775-2616.








Indoor Conservation Tips

-  Check for leaks. Leaks can drip away 90 gallons a day or more from old fixtures such as leaky faucets.
-  Insulate your water pipes. You'll get hot water faster plus avoid wasting water while it heats.
-  Reuse household water instead of just pouring it down the drain; use it for watering a plant or garden.
-  Don't let water run while shaving, washing your face, or brushing your teeth.
-  Don't use running water to thaw frozen foods. Instead, defrost overnight in the refrigerator or use the defrost setting on your microwave.
-  Store drinking water in the refrigerator rather than letting the tap run every time you want a cool glass of water.



Outdoor Conservation Tips

-  Outfit your hose with a shut-off nozzle that can be adjusted down to a fine spray so that water flows only as needed. When finished, turn the water off at the faucet instead of at the nozzle to avoid leaks.
-  Plant the right plant in the right place. Ask a landscape professional to help you choose native plants. Use drought-tolerant grass, shrubs, ground cover, and trees.
-  Using a hose to clean a driveway can waste hundreds of gallons of water. Use a blower or broom to clean leaves and other debris from these areas.
-  Grass is often your yard's biggest water user. Save grass for areas where children or pets will play. In other areas, consider mulch, gravel, or ground cover.
-  Do not leave sprinklers or hoses unattended. Your garden hose can put out 600 gallons or more in only a few hours.



EDUCATION & OUTREACH



K-12 Education



Community Outreach

An important part of our mission and commitment to sustainability involves outreach and educational opportunities to the community. Each year our education team visits local K-12 schools to educate young people about conservation, water and wastewater treatment, careers in the water industry, as well as recycling, landfills, and solid waste topics.

Our program provides an opportunity for young people to participate in engaging, hands-on activities that creatively explore the science of water and the complex issues surrounding it's management and stewardship.

Whether our children grow up and live in or around Lubbock or in some other distant place, water use and conservation will be one of the greatest challenges they will face.

The Conservation Education program is also dedicated to educating adults through various workshops and events. When requested, our department will do presentations for church groups, garden clubs, and neighborhood association groups. When possible, the Education team has displays at local events such as the Home and Garden Show, Parade of Homes, and South Plains Water Expo. These events give us the opportunity to educate citizens on city ordinances and conservation tips, as well as answer any questions citizens may have regarding conservation, water supply information, and compliance issues.

To inquire about a lesson or presentation or to schedule for an educator to come to your classroom or event, please call Mark Waggoner at (806) 775-2586.

2015 Water Quality Data

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: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants, and organic chemical contaminants.

Drinking water, including tap water and 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 at 1-800-426-4791.

Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are called secondary constituents. Secondary constituents are regulated by the State of Texas, not the EPA. For more information concerning taste, odor, or color of drinking water, please call the City of Lubbock's Water Department at 806-775-2588.

The City of Lubbock tests for nearly 100 different contaminants in our water system. A summary of the 2015 water quality results are reported in the following pages. The table below lists several terms and abbreviations that are used in the water industry and should help in understanding this report.

Action Level (AL)

if a contaminant rises above this level, treatment is required

Maximum Contaminant Level (MCL)

the highest contaminant level legally allowed

Maximum Contaminant Level Goal (MCLG)

the contaminant level below which there is no known health risk

millirems per year (mrem/yr)

measure of radiation absorbed by the body

Maximum Residual Disinfectant Level (MRDL)

the highest disinfectant level legally allowed

Maximum Residual Disinfectant Level Goal (MRDLG)

the disinfectant level below which there is no known health risk

Nephelometric Turbidity Units (NTU)

a measure of the cloudiness of the water

picocuries per Liter (pCi/L)

a measure of radioactivity in water

parts per billion (ppb)

one part per billion or micrograms per liter

parts per million (ppm)

one part per million or milligrams per liter

Range

the lowest and highest contaminant levels measured

Treatment Technique (TT)

a process intended to reduce the level of a contaminant in drinking water

2015 Water Quality Data

SUBSTANCES REGULATED AT THE TREATMENT PLANT								
Contaminant	MCL	MCLG	Roberts County Well Field		Bailey County Well Field		Lake Alan Henry	
			Contaminant Level	Range	Contaminant Level	Range	Contaminant Level	Range
Alpha Emitters	15 pCi/L	0	4.7 pCi/L (2011)	na	4.0 pCi/L (2011)	na	4.1 pCi/L	3.0-11.5 pCi/L
	Source of Contamination		erosion of natural deposits				Violation: NO	
Antimony	6 ppb	6 ppb	none detected	na	none detected	na	0.33 ppb	na
	Source of Contamination		refineries; fire retardants; ceramics; electronics				Violation: NO	
Arsenic	10 ppb*	0	1.5 ppb	na	5.9 ppb (2011)	na	3.3 ppb	na
	Source of Contamination		erosion of natural deposits; runoff at orchards				Violation: NO	
Barium	2 ppm	2 ppm	0.088 ppm	na	0.104 ppm (2011)	na	0.2 ppm	na
	Source of Contamination		erosion of natural deposits				Violation: NO	
Beta/Photon Emitters	50 pCi/L*	0	8.4 pCi/L (2011)	na	6.2 pCi/L (2011)	na	none detected	4.2-8.9 pCi/L
	Source of Contamination		decay of natural and manmade deposits				Violation: NO	
Chromium	100 ppb	100 ppb	4.2 ppb	na	none (2011)	na	1.5 ppb	na
	Source of Contamination		erosion of natural deposits				Violation: NO	
Cyanide	200 ppb	200 ppb	106 ppb	na	84.4 ppb (2014)	na	110 ppb	na
	Source of Contamination		discharge from steel/metal, plastic and fertilizer factories				Violation: NO	
Fluoride	4 ppm	4 ppm	0.68 ppm	na	1.23 ppm (2014)	na	1.06 ppm	na
	Source of Contamination		erosion of natural deposits				Violation: NO	
Nitrate	10 ppm	10 ppm	1.35 ppm	na	1.57 ppm	na	0.021 ppm	na
	Source of Contamination		runoff from fertilizer use; leaching from septic tanks, sewage; erosion				Violation: NO	

SPECIAL INFORMATION FOR PEOPLE WITH IMMUNE SYSTEM DEFICIENCIES

Certain people may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly or immuno-compromised persons 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 infections. These individuals should seek advice about drinking water from their 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 1-800-426-4791.

2015 Water Quality Data

SUBSTANCES REGULATED AT THE TREATMENT PLANT (CONTINUED)								
Contaminant	MCL	MCLG	Roberts County Well Field		Bailey County Well Field		Lake Alan Henry	
			Contaminant Level	Range	Contaminant Level	Range	Contaminant Level	Range
Selenium	50 ppb	50 ppb	1 ppb	na	3.4 ppb (2011)	na	none detected	na
	Source of Contamination		erosion of natural deposits				Violation: NO	
Turbidity	TT= 5 NTU	0	0.20 NTU	0.03-0.20 NTU	na	na	0.19 NTU	0.02-0.19 NTU
	TT= % of samples <0.3 NTU		100% less than 0.3 NTU		na		100% less than 0.3 NTU	
	Source of Contamination		soil runoff; Turbidity is a measurement of the cloudiness of the water. It is a good indicator of the effectiveness of the filtration system.				Violation: NO	
Uranium	30 ppb	0	na	na	na	na	11.6 ppb (2013)	na
	Source of Contamination		erosion of natural deposits				Violation: NO	
ADDITIONAL MONITORING								
Aluminum	0.05-0.2 ppm^	na	0.074 ppm	na	none (2014)	na	0.018 ppm	na
	Source of Contamination		water treatment chemical				Violation: na	
Chloride	300 ppm^	na	224 ppm	na	12 ppm (2014)	na	275 ppm	na
	Source of Contamination		naturally occurring				Violation: na	
Total Dissolved Solids	1000 ppm^	na	658 ppm	na	317 ppm (2014)	na	810 ppm	na
	Source of Contamination		naturally occurring				Violation: na	
Ammonia	not regulated	na	0.19 ppm	na	0.38 ppm	na	0.21 ppm	na
	Source of Contamination		water treatment chemical				Violation: na	
Calcium	not regulated	na	54.0 ppm	na	52.9 ppm (2011)	na	29.1 ppm	na
	Source of Contamination		naturally occurring				Violation: na	
Magnesium	not regulated	na	27.3 ppm	na	18.2 ppm (2011)	na	12.0 ppm	na
	Source of Contamination		naturally occurring				Violation: na	

Please Note: The state allows us to monitor for some substances less than once per year because the concentrations of these substances do not change frequently. Therefore, some of our data, though representative, are more than one year old. The year data was collected is listed in parentheses under the contaminant level for each water source.

2015 Water Quality Data

ADDITIONAL MONITORING (CONTINUED)								
Contaminant	MCL	MCLG	Roberts County Well Field		Bailey County Well Field		Lake Alan Henry	
			Contaminant Level	Range	Contaminant Level	Range	Contaminant Level	Range
Sodium	not regulated	na	136 ppm	na	29.4 ppm (2011)	na	247 ppm	na
	Source of Contamination		naturally occurring				Violation: na	
Iron	not regulated	na	none detected	na	0.023 ppm (2011)	na	none detected	na
	Source of Contamination		naturally occurring				Violation: na	
Potassium	not regulated	na	5.77 ppm	na	na	na	5.71 ppm	na
	Source of Contamination		naturally occurring				Violation: na	
Manganese	0.05 ppm^	na	0.00067 ppm	na	0.0017 ppm (2011)	na	0.0020 ppm	na
	Source of Contamination		naturally occurring				Violation: na	
Nickel	not regulated	na	0.00048 ppm	na	0.0014 ppm (2011)	na	0.00057 ppm	na
	Source of Contamination		naturally occurring				Violation: na	
pH	greater than 7.0^	na	7.8	na	7.4	na	8.0	na
	Source of Contamination		naturally occurring				Violation: na	
Zinc	5 ppm^	na	none detected	na	0.0084 ppm (2011)	na	0.0058 ppm	na
	Source of Contamination		naturally occurring				Violation: na	
Hardness	not regulated	na	247 ppm	na	207 ppm (2011)	na	122 ppm	na
	Source of Contamination		naturally occurring				Violation: na	
Conductance	not regulated	na	1200 micromhos/cm	na	524 micromhos/cm	na	1500 micromhos/cm	na
	Source of Contamination		naturally occurring				Violation: na	
Total Alkalinity	not regulated	na	170 ppm	na	214 ppm	na	176 ppm	na
	Source of Contamination		naturally occurring				Violation: na	
Sulfate	300 ppm^	na	90.1 ppm	na	29.2 ppm	na	121 ppm	na
	Source of Contamination		erosion of natural deposits				Violation: na	

2015 Water Quality Data

REGULATED IN THE DISTRIBUTION SYSTEM						
Contaminant	Average	Range	MCL	MCLG	Violation	Sources of Contamination
Chloramines	2.7 ppm** (2014)	0.5-4.4 ppm	MDRL = 4 ppm	MDRLG = 4 ppb	No	disinfectant used to control microbes
Chlorite	0.136 ppm	0-0.555 ppm	1.0 ppm	0.8 ppm	No	by-product of drinking water disinfection
Total Trihalomethanes	38.8 ppb^	6.6-38.8 ppb	80 ppb	na	No	by-product of drinking water chlorination
Haloacetic Acids (5)	12.7 ppb^	3.8-12.7 ppb	60 ppb	na	No	by-product of drinking water chlorination
Contaminant	Highest Monthly %	Range	MCL	MCLG	Violation	Sources of Contamination
Total Coliform	1.86%	na	Presence of coliform bacteria in 5% or more of the monthly samples	na	No	naturally present in the environment
Fecal Coliform or E. Coli	0	na		na	No	human or animal fecal waste

* The MCL for Beta/Photon Emitters is 4 mrem/year (a measure of radiation absorbed by the body). The US EPA considers 50 pCi/L to be the level of concern for Beta/Photon Emitters.

** Running Annual Average

^ Secondary Constituent Levels set by TCEQ

REGULATED IN CUSTOMER'S TAP						
Contaminant	90th Percentile Value	Range	MCL	MCLG	Violation	Sources of Contamination
Lead (Lead at customer tap)	1.5 ppb All sites were below the AL of 15 ppb	0-8.6 ppb	15 ppb AL	0 ppb	No	corrosion of household plumbing systems; erosion of natural deposits
Copper	0.11 ppm All sites were below the AL of 1.3 ppm	0-0.25 ppm	1.3 ppm AL	1.3 ppm	No	corrosion of household plumbing systems; erosion of natural deposits



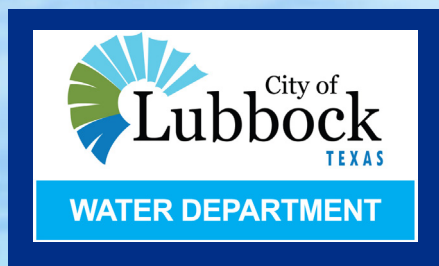
ALL DATA IN THIS TABLE WERE COLLECTED IN 2015 UNLESS OTHERWISE DESIGNATED IN PARENTHESES.

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

While your drinking water meets EPA's standard 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.

Turbidity is a measure of the amount of suspended particles in water. We monitor turbidity because it is an indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.





2015 Water Quality Report

Where to find additional information about your water

The Texas Commission on Environmental Quality publishes a Source Water Susceptibility Assessment for drinking water sources. This information describes the susceptibility and types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The information contained in the assessment allows us to focus our protection strategies. This source water assessment information is available on Texas Drinking Water Watch at <http://www.tceq.state.tx.us/DWW/>. For more information on source water assessments and protection efforts at our system, please contact us.

Water Quality Contact Information

🔷 **Safe Drinking Water Hotline**
800-426-4791

🔷 **City of Lubbock Water Treatment Lab**
806-775-2614
Weekdays 7:30 a.m. to 4:30 p.m.

🔷 **Lubbock Water Utilities Department**
General Questions
806-775-2592
Backflow Compliance
806-775-3596
Education
806-775-2586

Website: <http://water.mylubbock.us>