

2021

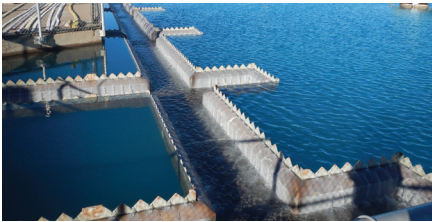


WATER QUALITY REPORT



How Do We Treat Your Water?

The Water Department's primary mission is to deliver safe, clean water to its customers. The Department operates the city's water system, which includes the treatment of water that is distributed throughout the City. The water treatment employees are dedicated to producing water that meets or exceeds strict water quality regulations set by the Texas Commission on Environmental Quality (TCEQ).



NORTH WATER TREATMENT PLANT

This plant was built in 1965. The water from Lake Meredith and the Roberts County Well Field is treated at this facility. The conventional treatment process includes sand, gravel, and coal filters to remove small particles in the water.



SOUTH WATER TREATMENT PLANT

This plant was built in 2012 to treat water from Lake Alan Henry. The water treated passes through membrane filters that remove small particles and impurities in the water.

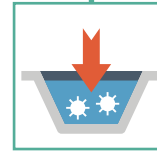
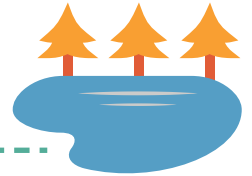


BAILEY COUNTY WELL FIELD

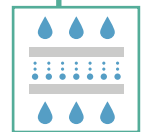
The City pumps water from the Ogallala aquifer and disinfects it near the well field. Then the water flows to Lubbock and enters into the distribution system in Northwest Lubbock.

Water Treatment Process

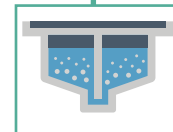
Transporting Source Water
Water is transported from lakes and the Ogallala aquifer to the treatment plants.



Disinfection
Chlorine and ammonia are added to both ground and surface water to kill potentially harmful organisms before the water enters the treatment plant.

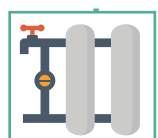


Aeration/Coagulation
Raw surface water is aerated, or mixed, to release gases in the water. Coagulants are added to the water to cause particles to stick together. When the water is gently mixed (known as flocculation), larger, heavier particles are created.

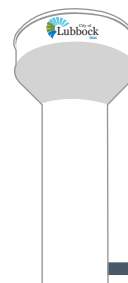
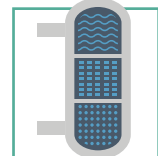


Flocculation /Sedimentation
Heavier particles known as floc settle to the bottom of sedimentation tanks.

Filtration
Surface water filters consisting of membranes or coal, sand, and gravel layers, are used to remove smaller particles still remaining in the water.



Secondary Disinfection
Ammonia is added just before the treated ground or surface water leaves the plant to create chloramine. Chloramine maintains the disinfection in the distribution system.

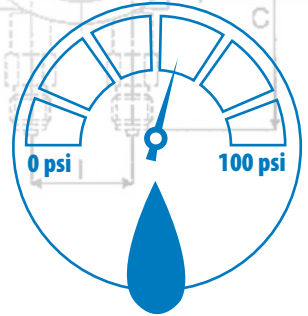


Distribution
Treated water is sent to Lubbock's homes and businesses for usage.



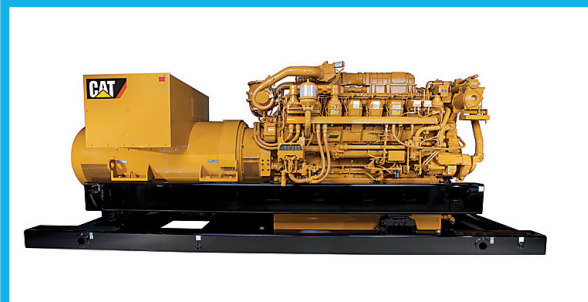
Maintaining Clean, Safe Water

Maintaining adequate water pressure throughout the City's water distribution system is essential to protecting the treated water that arrives at your house. A well pressurized system keeps contaminants out of the water distribution pipes. According to Texas Commission on Environmental Quality (TCEQ) regulations (30 TAC 290.46(r)), the water distribution system, "must maintain a minimum pressure of at least 35 psi throughout the distribution system during normal operations, and a minimum of 20 psi during emergencies." However, normal water pressure in Lubbock's distribution system typically ranges between 45 and 85 psi.



Alternative Power Supplies

Maintaining pressure can be difficult during power outages without alternative power supplies. Since 2008, the City has made it a priority to install dedicated emergency power generators at all of our pump stations and water treatment plants. This backup power capacity helps us respond proactively to power outages caused by extreme weather conditions or other emergency situations. During February 2021, Texas experienced the fury of Winter Storm Uri. This wide-spread event impacted cities across Texas. Many Texans experienced catastrophic power blackouts which caused a disruption in water service, including boil water notices. Forty-nine percent of the state had disruptions in water service.



Despite the impact of Winter Storm Uri, the City's water utility voluntarily switched to emergency generators for four days. By taking the water system off the electric grid, we saved customers from rolling blackouts and we never had a disruption of our water service.

Elevated Storage Tanks

Elevated storage tanks, or water towers, are an essential part of our water system in maintaining stable water pressure in our distribution system. Elevating the water high enough ensures that pressure, driven by gravity, forces the water down and through the system. The design helps keep the cost of water distribution lower by reducing the amount of pumps needed to maintain pressure in the system. Less pumping saves on energy cost.



You may see the City's skyline changing over the next few years as we take three old elevated storage tanks out of service and construct five new elevated storage tanks to meet the needs of our growing City. Two of these elevated storage tanks have already been constructed with three more scheduled for construction.

Drinking Water Analysis

CONTAMINANT	Year of Range	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Contaminant Sources	Violation
SUBSTANCES REGULATED AT THE TREATMENT PLANT									
BETA/PHOTON EMITTERS	2017	6.2	4.3	8.1	50 *	0	pCi/L	Decay of natural and man-made deposits	NO
ALPHA EMITTERS	2017	4.5	2	7	15	0	pCi/L	Erosion of natural deposits	NO
URANIUM	2017	4.2	3.5	4.9	30	0	ppb	Erosion of natural deposits	NO
ARSENIC	2021	1.95	1.6	2.3	10	0	ppb	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.	NO
BARIUM	2021	0.155	0.089	0.22	2	2	ppm	Erosion of natural deposits; Discharge of drilling wastes; Discharge from metal refineries	NO
CHROMIUM	2021	3.65	2.7	4.6	100	100	ppb	Erosion of natural deposits; Discharge from steel and pulp mills	NO
CYANIDE	2021	67.1	N/A	N/A	200	200	ppb	Discharge from steel/metal, plastic, and fertilizer factories	NO
FLUORIDE	2021	0.866	0.682	1.05	4	4	ppm	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories	NO
NITRATE	2021	0.944	0.053	1.69	10	10	ppm	Fertilizer runoff, septic tank leachate, sewage, erosion	NO
TURBIDITY	2021	0.054	0.027	0.112	****% < 0.3 (TT)	0	NTU	Soil runoff	NO
TOTAL ORGANIC CARBON	2021	1.66	0.610	4.86	TT	TT	ppm	Naturally present in environment	NO
CHLORITE	2021	0.39	0.07	0.67	1	0.8	ppm	By- product of drinking water disinfection	NO
DISINFECTANT RESIDUAL									
TOTAL CHLORINE	2021	3.73	3.10	4.60	MRDLG=4.0	MRDLG=4.0	ppm	Disinfectant used to control microbes	NO
REGULATED IN THE DISTRIBUTION SYSTEM									
TOTAL TRIHALOMETHANES	2021	16.6	5.4	32.7 ^	80	N/A	ppb	By- product of drinking water chlorination	NO
HALOACETIC ACIDS (5)	2021	7.48	4.5	12 ^	60	N/A	ppb	By- product of drinking water chlorination	NO
****Total Coliform	2021	0	0	0	5% of monthly samples are positive	0	***P/A	Naturally present in environment	NO
REGULATED AT THE CUSTOMER'S TAP									
LEAD (90th percentile)	2019	N/A	0	41	15 AL	0	ppb	Natural deposit erosion; plumbing system corrosion	NO
Out of 103 samples collected ,99 were below 14 ppb, 100 were below the Action Level(AL) of 15ppb & 3 exceeded the AL at 20, 31,& 41 ppb									
COPPER (90th percentile)	2019	0.087	0.013	0.61	1.3 AL	0	ppm	Natural deposit erosion; plumbing system corrosion	NO
Out of 100 sites collected , all were below the action level (AL) or 1.3 ppm									
ADDITIONAL MONITORING									
ALUMINUM	2021	0.131	0.072	0.190	0.05-0.2^^	N/A	ppm	Water Treatment Chemical	N/A
CHLORIDE	2021	297	292	301	300 ^^	N/A	ppm	Naturally occurring	N/A
SULFATE	2021	126	122	130	300 ^^	N/A	ppm	Naturally occurring	N/A
TOTAL DISSOLVED SOLIDS	2021	671	340	871	1000^^	N/A	ppm	Naturally occurring	N/A
AMMONIA	2021	0.155	0.102	0.211	Not Regulated	N/A	ppm	Water Treatment Chemical	N/A
CALCIUM	2021	47.3	36.9	57.7	Not Regulated	N/A	ppm	Naturally occurring	N/A
MAGNESIUM	2021	22	14	29	Not Regulated	N/A	ppm	Naturally occurring	N/A
POTASSIUM	2021	5.83	5.70	5.95	Not Regulated	N/A	ppm	Naturally occurring	N/A
SODIUM	2021	214	156	271	Not Regulated	N/A	ppm	Naturally occurring	N/A
HARDNESS	2021	209	150	267	Not Regulated	N/A	ppm	Naturally occurring	N/A
CONDUCTANCE	2021	1520	1480	1560	Not Regulated	N/A	µmho/cm	Naturally occurring	N/A
TOTAL ALKALINITY	2021	190	183	199	Not Regulated	N/A	ppm	Naturally occurring	N/A

For More Information
Texas Drinking Water Watch:
<http://www.tceq.state.tx.us/DWW>

Safe Drinking Water Hotline: (800) 426-4791
City of Lubbock Water Treatment Lab: (806) 775-2614

Some of our data, though representative, are more than one year old. This is allowable by the state.
*The MCL for beta/photon emitters is 4 mrem/year. The USEPA considers 50 pCi/L to be the level of concern for beta/photon emitters.
**Running Annual Average
^Highest Locational Running Annual Average
^^Secondary Constituent Levels set by the Texas Commission on Environmental Quality.
*** Note: 100% of plant turbidity meets the <0.3 NTU MCL
****Results reported as (Presence/Absence). Presence is defined as total coliforms found (positive) . Absence is defined as no total coliforms found (negative).

Abbreviations & Definitions

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

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

Avg - Regulatory compliance with some MCLs are based on running annual average of monthly samples.

Level 1 assessment - A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 assessment - A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Maximum Contaminant Level (MCL) - 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 (MCLG) - 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.

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.

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 contaminants.

MFL - Million Fibers per Liter, a measure of asbestos

mrem - Millirems per year, a measure of radiation absorbed by the body

na - Not applicable

NTU - Nephelometric Turbidity Units, a measurement of turbidity

pCi/L - Picocuries per Liter, a measurement of radioactivity

ppb - Parts per billion or micrograms per liter

ppm - Parts per million or milligrams per liter

ppq - Parts per quadrillion or picograms per liter

ppt - Parts per trillion or nanograms per liter

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

Turbidity -A measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

umho - micromhos/cm

Important Health Information

Information about your drinking water

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 Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at (800) 426-4791.

Contaminants that may be present in source water 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.

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. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Contaminants may be found in drinking water that may cause taste, color, or 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 the system's business office.



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. We are responsible for providing high-quality drinking water, but we 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>.

Arsenic

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.

Nitrate

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

Special information for people with immune system deficiencies

You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly, or immunocompromised persons such as those undergoing chemotherapy for cancer; persons 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 from infections. You should seek advice about drinking water from your physician or health care providers. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline (800-426-4791).

Where Does Our Water Come From?

Lubbock's water supply comes from diverse and resilient sources. Groundwater from the Ogallala Aquifer is supplied by Roberts County Well Field and Bailey County Well Field, which accounts for 64% of Lubbock's water usage. Surface water is supplied by Lake Alan Henry and Lake Meredith, which accounts for 36% of water usage.



11%

Lake Meredith (LM)

Canadian River Municipal Water Authority (CRMWA) manages and operates LM, a reservoir formed by Sanford Dam on the Canadian River at Sanford, Texas. LM is approximately 160 miles north of Lubbock. CRMWA has supplied water from LM to Lubbock since the 1960s.

20%

Bailey County Well Field (BCWF)

The City has owned and operated BCWF since the 1950s. The City owns over 80,000 acres of water rights in BCWF. Currently, there are 175 active wells and the average well production capacity is 200 gallons per minute. BCWF is located approximately 75 miles northwest of Lubbock in Bailey and Lamb Counties.

44%

Roberts County Well Field (RCWF)

CRMWA manages and operates RCWF in Roberts County, Texas. RCWF is located approximately 150 miles to the northeast of Lubbock. CRMWA has supplied water from RCWF to Lubbock since the early 2000s.

25%

Lake Alan Henry (LAH)

The City owns and operates LAH, a reservoir formed by Montford Dam on the Double Mountain Fork of the Brazos River. LAH is located approximately 65 miles southeast of Lubbock in Garza County, Texas. The City began using water from LAH in August 2012.

The Texas Commission on Environmental Quality completed an assessment of your source water and results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for your water system is based on this susceptibility and previous sample data. Any detections of these contaminants will be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts at our system contact Michael Lowe at (806) 775-2616.

Delivering Clean, Safe Water

The City's water staff is passionate and serious about treating, maintaining, and delivering clean, safe water to our customers. In addition to water treatment and pressure maintenance, monitoring the condition of pipelines and customer service lines is essential to this effort. Water staff maintains over 1,200 miles of water distribution lines inside the City. However, once the water we provide passes through the City's meter onto your property, we have no control over your plumbing. Yet, you do.

Lead Contaminants

Protecting drinking water from lead sources is a shared responsibility of Lubbock's Water Utility and the property owner. We protect our water distributions system and you protect your service line and plumbing. Although there is no detectable lead in our water supplies, in some cases it can be detected in homes and businesses due to pipe corrosion or leaching. Clean water can be exposed to lead as it flows through plumbing in and around your facility. Lead enters water through corroding plumbing materials including lead service pipes, galvanized iron pipes, lead solder and brass faucets, valves or fittings. Knowing what type of plumbing was installed and when it was installed can assist you in determining your potential exposure to lead. We encourage our customers to replace any lead pipes or plumbing materials serving their home or businesses, especially lead service lines. Lead service lines were predominately installed prior to the mid-1950s.

Keeping Tap Water Fresh at Home

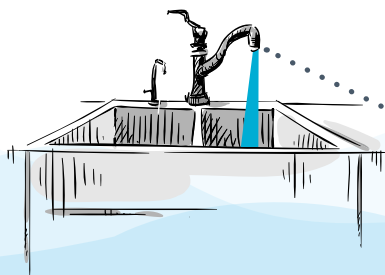
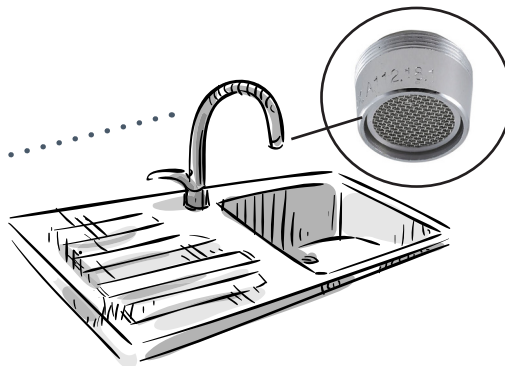
A few simple tips can help ensure clean, fresh water every time you turn on the tap.

Household Water Quality Tips



- Use only cold water for drinking and cooking.
- Build-up of metals, sediment, and bacteria in your hot water heater can enter your tap water when it runs through the water heater.

Sediment and metals can collect in the aerator screen located at the tip of your faucets. Replace aerators that are in poor condition or clean faucet aerators routinely (available at local hardware store).



Flush cold taps for a couple of minutes before using water for drinking and cooking when water has not been used for an extended period of time. When water sits for long periods in the pipes, water quality can degrade.

Get Involved

The Lubbock Water Advisory Commission conducts regularly scheduled board meetings that are open to the public. Visit our website at www.mylubbock.us/meetings to view upcoming meetings.

