

City of Lubbock

Water Quality Report 2001

July 2002

Test Your Water Knowledge

- What percentage of water treated for drinking is applied to lawns for irrigation?
- Is there any such thing as pure water?
- Where does bottled water come from?
- What is the name of the groundwater source used by the City of Lubbock?
- What is the name of the lake where the majority of Lubbock's water comes from?
- Name a water source that contains no contaminants?
- Name the room in the home where the most water is consumed?

[Answers are found on bottom of this page.](#)

Where Do We Get Our Water

The City of Lubbock's drinking water comes from both surface and ground water sources. During 2001, the citizens of Lubbock used over 14 billion gallons of water. Our primary water source is Lake Meredith which is located approximately 150 miles north of Lubbock. The Canadian River Municipal Water Authority manages and maintains this water source and the aqueduct system that transports this water to Lubbock. During the year 2000, over 12 billion gallons of the water were supplied by Lake Meredith. The remaining 2 billion gallons used were supplied by well fields located in Bailey county.

Este reporte incluye informacion importante sobre el agua para tomar. Para asistencia en espanol, favor de llamar al telefono 775-2592.

Helpful Definitions for Reading this Report

The following is a list of definitions used in the chart on the following this page:

Maximum Contaminant Level Goal (MCLG) -The level of a contaminant, or substance, in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

Maximum Contaminant Level (MCL) -The highest level of a contaminant, or substance, that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment.

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

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

Parts Per Million (PPM) -One part per million. For example, if you had a million dollars, one part per million would equal one dollar.

Parts Per Billions (PPB) -One part per billion. For example, if you had a billion dollars, one part per billion would equal one dollar.

mrem/year -millirems per year (a measure of radiation absorbed by the body)

NTU -nephelometric turbidity units (a measure of turbidity)

pCi/l -picocuries per liter (a measure of radioactivity)

Maximum Residual Disinfection Level (MRDL) -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 Disinfection Level Goal (MRDLG) -The level of drinking water contaminant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contamination.

Important Information for Your Consideration

Special Information for People with Weakened Immune Systems

Some people may be more vulnerable to contaminants in drinking water than the general population. 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, 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 (1-800-426-4791).

SUBSTANCE	MONITORING DATE*	MCL	HIGHEST LEVEL DETECTED	MCLG	RANGE	SOURCES OF CONTAMINATION
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REGULATED AT TREATMENT PLANT

BETA/PHOTON EMITTERS	1999	50 pCi/L**	10.5 pCi/L	0	N/A	Decay of natural and man-made deposits
ALPHA EMITTERS	1999	15 pCi/L	5.20 pCi/L	0	N/A	Erosion of natural deposits
COMBINED RADIUM	1999	5 pCi/L	0.30 pCi/L	0	N/A	Erosion of natural deposits
ARSENIC	1999	50 ppb	6.3 ppb##	N/A	N/A	Erosion of natural deposits; runoff from orchards
BARIUM	2001	2 ppm	0.2 ppm	2 ppm	N/A	Erosion of natural deposits
FLUORIDE	2001	50	0.5 ppm	4 ppm	N/A	Erosion of natural deposits
NITRATE	2001	4	0.04 ppm	10 ppm	N/A	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion
TURBIDITY	2001	10	0.06 NTU	TT	100% of samples met Turbidity standard of 0.5 NTU	Soil runoff
TOTAL ORGANIC CARBON	2001	TT	4.1ppm	TT	2.6-4.1 ppm	Naturally present in environment
CHLORAMINES	2001	MRDL=4 ppm	3.2 ppm	MRDLG=4	2.51-3.71	Water additive used to control

			exceeded AL			deposits; corrosion of household plumbing systems
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UNREGULATED SUBSTANCES#

CHLOROFORM	2001	Not Regulated	3.3 ppb	Not Regulated	0.6-3.3 ppb	Component of Total Trihalomethanes
BROMODICHLOROMETHANE	2001	Not Regulated	8.7 ppb	Not Regulated	2.6-8.7 ppb	Component of Total Trihalomethanes
DIBROMOCHLOROMETHANE	2001	Not Regulated	20.6 ppb	Not Regulated	6.2-20.6 ppb	Component of Total Trihalomethanes
BROMOFORM	2001	Not Regulated	13.2 ppb	Not Regulated	3.4-13.2 ppb	Component of Total Trihalomethanes
SULFATE	2001	300 ppm ^	354 ppm^^	Not Regulated	N/A	Mineral and Nutrient

ADDITIONAL MONITORING

ALUMINUM	2001	0.05-0.2ppm^	0.12 ppm	N/A	N/A	Water Treatment Chemical
CHLORIDE	2001	300 ppm ^	382 ppm^	N/A	N/A	Naturally occurring
TOTAL DISSOLVED SOLIDS	2001	1000 ppm^	1298 ppm^^	N/A	N/A	Naturally occurring
AMMONIA	2001	Not Regulated	0.274 ppm average	N/A	0.069-0.482 ppm	Water Treatment Chemical
CALCIUM	2001	Not Regulated	63 ppm	N/A	N/A	Naturally occurring
MAGNESIUM	2001	Not Regulated	41 ppm	N/A	N/A	Naturally occurring
SODIUM	2001	Not Regulated	346 ppm	N/A	N/A	Naturally occurring
HARDNESS	2001	Not Regulated	338 ppm	N/A	N/A	Naturally occurring
CONDUCTANCE	2001	Not Regulated	2608 micromhos/cm	N/A	N/A	Naturally occurring
TOTAL ALKALINITY	2001	Not Regulated	183 ppm	N/A	N/A	Naturally occurring

**INFORMATION COLLECTION RULE
MONITORING (Finished water results)^{^^^}**

TRIHALOMETHANES (4)	1997-98	80 ppb	63.7 ppb	N/A	26.8-63.7 ppb	By-product of drinking water chlorination
HALOACETIC ACIDS (5)	1997-98	60 ppb	17 ppb	N/A	9.7-17 ppb	By-product of drinking water chlorination
HALOKETONES	1997-98	Not Regulated	1.0 ppb	N/A	0-1.0 ppb	By-product of drinking water chlorination
HALOACETONITRILES	1997-98	Not Regulated	7.9 ppb	N/A	0.6-7.9 ppb	By-product of drinking water chlorination
TOTAL ORGANIC HALIDES	1997-98	Not Regulated	115 ppb	N/A	84-115 ppb	By-product of drinking water chlorination
CHLORINE RESIDUAL	1997-98	MRDL=4 ppm	3.3 ppm	MRDL=4 ppm	2.5-3.3 ppb	By-product of drinking water chlorination
CYANOGEN CHLORIDE	1997-98	Not Regulated	2.9 ppb	N/A	1.5-2.9 ppb	By-product of drinking water chlorination
CHLORAL HYDRATE	1997-98	Not Regulated	3.5 ppb	N/A	0-3.5 ppb	By-product of drinking water chlorination

* The state allows us to monitor for some substances less than once per year because the concentrations of these substances do not change frequently. Some of our data, though representative, is more than one year old.

** The MCL for Beta/Photon Emitters is 4 mrem/year. The EPA considers 50 pCi/L to be a level for concern.

*** Lead and copper values represent the 90th percentile of results from the last sampling, conducted in September, 2000.

Arsenic must be sampled at the entry points into the system. The figure shown in this table represents only groundwater, it does not represent the surface water which the majority of our customers receive. The arsenic level for our surface water is less than 5 ppb.

While our drinking water meets EPA 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.

Unregulated contaminant monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.

[^] Secondary Constituent Levels set by the Texas Natural Resource Conservation Commission.

^{^^} Exceed Secondary constituent Levels. Substances that exceed secondary levels generally pose no health risks but may cause aesthetic problems relating to taste, odor, and other nuisance conditions.

^{^^^} Information Collection Rule monitoring was conducted from July 1997 through December 1998 in order to assist the EPA in determining occurrence of some contaminants and whether to regulate those contaminants.

Lubbock's Future Water Source

Lake Alan Henry

The question is often asked, "When will we begin using Lake Alan Henry?" This article will address this question and give some historical information that we hope our citizens find useful.

A Historical Overview

In 1964, shortly after the City of Lubbock began receiving water from Lake Meredith, it was determined that additional water sources would be needed for future growth of the City of Lubbock. In 1978 after several years of research, city leaders begin focusing on a reservoir on the South Fork of the Double Mountain Fork of the Brazos River.

During the mayoral term of Alan Henry, the city council voted to allow the purchase of the water rights to the Justiceburg Reservoir, later known as Lake Alan Henry. The permitting process with TNRCC began in 1984 and ended with the completion of the John T. Montford Dam in 1994. Based on average rainfall runoff conditions, it is estimated that the lake will fill to normal pool elevation or operating depth by the year 2004.

Lake Alan Henry Today

Currently Lake Alan Henry is used as a recreational facility and is rated among the top five bass fisheries in the State of Texas. There are 57 primitive camping sites located on the east end of the Recreational Area, adjacent to the boat ramp parking lot. On busy weekends these spaces often overflow with campers in tents, pop-up trailers and even fifth wheel or motor homes.

In 1994 the city constructed a five-lane boat ramp and paved the road and the parking area at the city-owned 580 acre Sam Wahl Recreational Area. Future enhancements to the recreational area are flush toilet restrooms, three additional fishing piers, a swimming platform and the construction of a two mile hiking trail.

These enhancements are estimated to be completed by October 2002. Additional improvements that have an anticipated completion date of September 2003 are campgrounds with electrical hook-ups and the expansion of the existing paved parking lot that will include 150 pull-through spaces.

Lake Alan Henry in the Future

Lake Alan Henry is a valuable asset to the city as an additional water supply. Lakes in the West Texas area are scarce and many cities are searching for additional water sources. The City of Lubbock anticipates the use of Lake Alan Henry sometime around 2040 to 2050. It is important that the use of Lake Alan Henry be delayed until it is economically feasible and the city demonstrates a need for this water supply.

Costly capital projects will need to be completed before this water source can be used. A pipeline will need to be put in the ground, pump stations will need to be constructed since the water will have to travel uphill, and an additional water treatment facility will need to be erected. The cost of these capital improvements will be shared by the customers of the City of Lubbock that will use this water source.

The City of Lubbock promotes wise water use to its current customers in order to delay the need to utilize Lake Alan Henry as a drinking source and to continue to keep water rates as low as possible.

Do You Know...

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. 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. The Food and Drug Administration 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 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 byproducts 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.

Answers to Water Knowledge Quiz

- ◆ What percentage of water treated for drinking during the summer, is applied to lawns for irrigation?

Answer: Fifty percent of all the water treated for drinking is applied to lawns for irrigation purposes during the summer.

- ◆ Is there any such thing as pure water?

Answer: No, all water, including groundwater, contains minerals and/or contaminants.

- ◆ Where does bottled water come from?

Answer: Unless the bottle actually identifies the source, the public has no way of knowing where the water comes from without contacting the bottled water company. Many bottled water companies purchase their water directly from a municipal water supplier in their area.

- ◆ What is the name of the groundwater source used by the City of Lubbock?

Answer: The Ogallala Aquifer is the groundwater source used by Lubbock. The City of Lubbock receives about 20% of its water from the aquifer.

- ◆ What is the name of the lake where the majority of Lubbock's water comes from?

Answer: Lubbock receives the majority of its water from Lake Meredith which is located north of Amarillo. The city receives approximately 80% of its water from this source. The City of Lubbock has been receiving water from Lake Meredith since the mid 1960's.

- ◆ Name a water source that contains no contaminants?

Answer: There is no pure water source. All water contains some minerals and/or contaminants.

- ◆ Name the room in the home where the most water is consumed?

Answer: The bathroom. If a person takes a 10 minute shower they use approximately 40 gallons of water each time they shower, a filled bathtub can use anywhere from 60 to 80 gallons of water, and a toilet flushing can use anywhere from 1.6 gallons to 7 gallons depending on the age of the

toilet. Although this may not sound like a lot, these activities are done numerous times during the day.

How Much Do You Know About Bottled Water?

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 at (800)426-4791.

How Much Do You Know About Water?

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 about taste, odor, or color of drinking water, please call 775-2614.

We Welcome Your Comments

If you have any questions regarding water quality issues, please contact:

- The Safe Drinking Water Hotline at 1-800-426-4791
- For questions about Lubbock's water quality, call 775-2614

Monday – Friday between 7:30 a.m. and 4:30 p.m.
- For general questions about Lubbock Water Utilities, or additional copies of this brochure, call 775-2596

Monday – Friday between 8 a.m. and 5 p.m.
- City Council meetings are held the 2nd and 4th Thursday of each month.

Citizen comments are from 7:30 a.m. to 8:00 a.m.

