City of Liberty Hill

2018

CONSUMER CONFIDENCE REPORT

2018 Consumer Confidence Report for Public Water System CITY OF LIBERTY HILL

This is your water quality report for January 1 to December 31, 2018

CITY OF LIBERTY HILL provides surface water and ground water from the Trinity Aquifer and Lake Travis located in **Williamson County**. We also receive and distribute water from Lake Still House Located in Bell County

For more information regarding this report contact:

Name Douglas Wayne Bonnet

Phone (512) 778-5449

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono (512) 778-5449.

Definitions and Abbreviations

Definitions and Abbreviations	The following tables contain scientific terms and measures, some of which may require explanation.
Action Level:	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 or 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 or 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 or 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 or 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 measure of turbidity)
pCi/L	picocuries per liter (a measure of radioactivity)

Definitions and Abbreviations

ppb:	micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.
ppm:	milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.
ppq	parts per quadrillion, or picograms per liter (pg/L)
ppt	parts per trillion, or nanograms per liter (ng/L)
Treatment Technique or TT:	A required process intended to reduce the level of a contaminant in drinking water.

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 EPAs 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 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 agriculture, urban storm water 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 storm water 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. 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.

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).

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.

Information about Source Water

CITY OF LIBERTY HILL purchases water from CITY OF GEORGETOWN. CITY OF GEORGETOWN provides purchase surface water from **Lake Stillhouse Hollow Lake** located in **Bell County**
CITY OF LIBERTY HILL purchases water from CITY OF LEANDER. The CITY OF LEANDER provides purchase surface water from Lake Travis located in Williamson county
'TCEQ 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 **Douglas Wayne Bonnet at (512) 778-5449**

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2018	1.3	1.3	0.201	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2018	0	15	2.99	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

2018 Water Quality Test Results

Disinfection By-Products	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2018	7	0 - 5	No goal for the total	60	ppb	N	By-product of drinking water disinfection.

'* The value in the Highest Level or Average Detected column is the highest average of all HAA5 sample results collected at a location over a year'

Total Trihalomethanes (TTHM)	2018	40	0 - 44.3	No goal for the total	80	ppb	N	By-product of drinking water disinfection.

'* The value in the Highest Level or Average Detected column is the highest average of all TTHM sample results collected at a location over a year'

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	2018	0.0798	0.0798 - 0.0798	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	2018	0.71	0.71 - 0.71	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate [measured as Nitrogen]	2018	0.28	0 - 0.28	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Nitrite [measured as Nitrogen]	2018	0.04	0 - 0.04	1	1	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium	2018	3.1	3.1 - 3.1	50	50	ppb	N	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/photon emitters	2018	19.2	5.6 - 19.2	0	50	pCi/L*	N	Decay of natural and man-made deposits.

*EPA considers 50 pCi/L to be the level of concern for beta particles.

Combined Radium 226/228	2018	5	4.92 - 4.92	0	5	pCi/L	N	Erosion of natural deposits.

Gross alpha excluding radon and uranium	2018	9.9	0 - 9.9	0	15	pCi/L	N	Erosion of natural deposits.

Disinfectant Residual

' A blank disinfectant residual table has been added to the CCR template, you will need to add data to the fields. Your data can be taken off the Disinfectant Level Quarterly Operating Reports (DLQOR).'

Disinfectant Residual	Year	Average Level	Range of Levels Detected	MRDL	MRDLG	Unit of Measure	Violation (Y/N)	Source in Drinking Water
Chloramine	2018	1.88	.50 - 3.75	4	4	PPM	N	Water additive used to control microbes.

Violations

Chlorine

Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.

Violation Type	Violation Begin	Violation End	Violation Explanation
Disinfectant Level Quarterly Operating Report (DLQOR).	07/01/2018	09/30/2018	We failed to test our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated. We failed to report our drinking water for the contaminant and period indicated.. At the time we were submitting our data the server at TCEQ was not in operation, and we were unable to submit our data. The levels are and were then at acceptable levels. Again this was a reporting issue on TCEQs side that has been resolved

City of Leander

CITY OF LEANDER
PO BOX 319
LEANDER, TX 78646

2018 Annual Drinking Water Quality Report

A Consumer Confidence Report (CCR) for City of Leander Water Customers

Our Drinking Water Quality Meets or Exceeds All Federal Standards and Regulations
The following information is an annual report of City of Leander drinking water quality. The Environmental Protection Agency (EPA) sets regulatory limits for the amounts of certain contaminants in water provided by public water systems, and the data shown in this report comes from tests conducted on City of Leander water.

Sources of Drinking Water
Sources of drinking water (tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of 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 animal or human activity. 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 storm water runoff, industrial or domestic wastewater discharges, oil and gas production, and mining or farming; **pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff and residential uses; **organic chemical contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production that also come from gas stations, urban storm water runoff and septic systems; and **radioactive contaminants**, which can be naturally occurring or the result of oil and gas production and mining activities.

****Special Notice for Elderly, Infants, and Immunocompromised People****
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; those who have undergone organ transplants; those who are undergoing treatment with steroids; and or people with other immune system disorders can be particularly at risk from infection. You should seek advice about drinking water from your physician or healthcare provider. Additional guidelines on appropriate means to lessen the risk of infection by cryptosporidium are available from the Safe Drinking Water Hotline (800-126-1791).

En Espanol
Este informe incluye informacion importante sobre el agua potable. Si tiene preguntas o comentarios sobre este informe en Espanol, favor de llamar al tel. (512)528-2700 para hablar con una persona bilingue en Espanol.

Where Do we Get Our Drinking Water?
City of Leander drinking water comes from surface water in Lake Travis. A Source Water Susceptibility Assessment for your drinking water sources is currently being updated by the Texas Commission on Environmental Quality (TCEQ). 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 better target source water protection strategies. Some of 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 with our system, please contact City of Leander Public Works.

Public Participation Opportunities
Leander City Council meets on the first and third Thursday of each month at 7p.m. in Pat Bryson Municipal Hall located at 201 North Brushy Street Leander, Texas 78641. Please call (512)528-2700 or go to www.leanderts.gov/meetings to confirm meeting dates and times. The city's water system is operated by the Public Works Department Water/Wastewater Division. If you have questions regarding water quality or sources, please call (512)259-2640. You may review this consumer confidence report on the city's website at www.leanderts.gov/publicworks.

CITY OF LEANDER
PO BOX 319
LEANDER, TX 78646

2018 Annual Drinking Water Quality Report

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All Drinking Water May Contain Contaminants

When drinking water meets federal standards there may not be additional health-based benefits to purchasing bottled or point-of-use water 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

Many constituents (such as calcium, sodium, or iron) which are often found in drinking water can cause taste, color, and odor problems. The taste and odor constituents are called secondary constituents and are regulated by the State of Texas, not the EPA. These constituents are not causes for health concern. Therefore, secondary constituents are not required to be reported in this document but they may greatly affect the appearance and taste of your water.

Required Additional 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 one or two minutes before using water for drinking or cooking. If you are concerned about lead in your water, consider having 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 (800-426-4791) or at www.epa.gov/safewater/lead.

Definitions

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

Maximum Contaminant Level (MCL): The highest permissible level of a contaminant in drinking water. MCL's 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 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 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.

Abbreviations:

Avg	Regulatory compliance with some MCLs is based on running annual average of monthly samples.
Na	Not applicable
NTU	Nephelometric Turbidity Units
MFL	Million fibers per liter (a measure of asbestos)
pCi/L	Picocuries per liter (a measure of radioactivity)
ppb	parts per billion, micrograms per liter (ug/L), or one ounce in 7.35 million gallons of water
ppm	Parts per million
ppq	Parts per quadrillion, or picograms per liter
ppt	parts per trillion, or nanograms per liter

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Unregulated Byproducts

Bromoform, chloroform, dibromochloromethane, and bromodichloromethane are disinfection byproducts. There is no maximum contaminant level for these chemicals at the entry point to distribution.

Year	Contaminant	Average Level	Minimum Level	Maximum Level	Unit of Measure	Source of contaminant
2018	Chloroform	1.37	1.6	6.3	ppb	Byproduct of drinking water disinfection.
2018	Bromoform	4.15	1.4	5.3	ppb	Byproduct of drinking water disinfection.
2018	bromodichloromethane	6.97	1.4	11.5	ppb	Byproduct of drinking water disinfection.
2018	dibromochloromethane	8.10	1.2	13.1	ppb	Byproduct of drinking water disinfection.

Lead and Copper

The Lead and Copper Rule protects public health by minimizing lead and copper levels in drinking water, primarily by reducing water corrosiveness. Lead and Copper enter drinking water mainly from corrosion of customer's plumbing containing lead and copper materials.

Year	Contaminant	The 90th Percentile	MCL	Sites Exceeding Action Level	Action Level	Unit of Measure	Violation	Source of Contaminant
2017	Lead	0.0014	0	0	15	ppb	N	Corrosion of household plumbing systems, erosion of natural deposits.
2017	Copper	0.54	1.3	0	1.3	ppm	N	Corrosion of household plumbing

Turbidity

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

Year	Contaminant	Highest Single Measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Source of Contaminant
2018	Turbidity (NTU)	0.26	100%	0.3	

Total Organic Carbon

Total organic carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfection byproducts. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. Byproducts of disinfection include trihalomethanes (THMs) and haloacetic acids (HAA) which are reported elsewhere in this report.

Year	Contaminant	Average Level	Minimum Level	Maximum Level	Unit of Measure	Source of Contaminant
2018	Source Water	3.10	3.00	4.04	ppm	Naturally present in the environment
2018	Drinking Water	2.96	2.35	5.00	ppm	Naturally present in the environment
2018	Removal Ratio	13.1	-0.193	26	% of removal*	NA

*Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCEQ to be removed.

Total Coliform REPORTED MONTHLY TESTS FOUND NO TOTAL COLIFORM BACTERIA
Fecal Coliform REPORTED MONTHLY TESTS FOUND NO FECAL COLIFORM BACTERIA

City of Leander

CITY OF LEANDER
PO BOX 319
LEANDER, TX 78646

2018 Annual Drinking Water Quality Report

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Inorganic Contaminants

Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Violations	Source of Contaminant
2018	Barium (ppm)	0.0595	0.0557	0.0633	2	2	N	Discharge of drilling wastes, discharge from metal refineries, erosion of natural deposits.
2018	Fluoride (ppm)	0.16	0.28	0.61	4	4	N	Erosion of natural deposits, water additive which promotes strong teeth, discharge from fertilizer and aluminum factories.
2018	Nitrate (ppm)	0.21	0.19	0.28	10	10	N	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits
2018	Gross beta emitters (pCi/L)	<4.0	<4.0	<4.0	50	0	N	Decay of natural and man-made deposits

Organic Contaminants

Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Violations	Source of Contaminant
2018	Xylenes (ppm)	<0.5	<0.5	<0.5	10	10	N	Organic compound generally found in solvents.

Maximum Residual Disinfectant Level

Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MRDLG	Source of Contaminant
2018	Chloramines (ppm)	3.03	0.67	4.4	4.0	4.0	Disinfectant used to control microbes.

Disinfection Byproducts

This evaluation is sampling required by the EPA to determine the range of total trihalomethanes and haloacetic acids in the system for future regulations. The samples are not used for compliance and may have been collected under non-standard conditions. EPA requires data to be reported here. If you have any questions, please contact a water system representative.

Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	Unit of Measure	Source of Contaminant
2018	Total Haloacetic Acids	6.8	4	9.2	60	ppb	Byproduct of drinking water disinfection.
2018	Total Trihalomethanes	22.20	5.1	35.4	80	ppb	Byproduct of drinking water disinfection.
2017	Total Haloacetic Acids	12.4	7.0	12.4	60	ppb	Byproduct of drinking water disinfection.
2017	Total Trihalomethanes	33.96	21.3	43.8	80	Ppb	Byproduct of drinking water disinfection.

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PO BOX 319
LEANDER, TX 78646

2018 Annual Drinking Water Quality Report

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Secondary and Other Constituents Not Regulated (No associated adverse health effects)

Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL Limit	Units of Measure	Source of Contaminant
2018	Bicarbonate (ppm)	187	NA	NA	NA	ppm	Corrosion of carbonate rocks such as limestone
2018	Chloride (ppm)	37	NA	NA	300	ppm	Abundant naturally occurring element used in water purification, byproduct of oil field activity.
2018	Hardness Ca/Mg (ppm) Grains/Gallon	175	NA	NA	NA	ppm	Naturally occurring calcium and magnesium.
2018	pH (units)	8.29	7.85	8.63	>7	ppm	Measure of corrosiveness of water
2018	Sulfate (ppm)	21	NA	NA	300	ppm	Naturally occurring common industrial byproduct, byproduct of oil field activity.
2018	Total Alkalinity as CaCO3 (ppm)	153	147	159	NA	ppm	Naturally occurring soluble mineral salts
2018	Total Dissolved Solids	255	NA	NA	1000	ppm	Total dissolved mineral constituents in water

Texas Commission on Environmental Quality Water System Search	PWS ID	PWS Name
	TX2460012	CITY OF LEANDER

A Public Water System (PWS) ID is a unique identifying code for a public water system in the EPA's Safe Drinking Water Information System