



Annual Drinking Water Quality Report CITY OF LUCAS (TX0430054) Consumer Confidence Report (CCR) January 1 to December 31, 2016

For more information regarding this report contact: Public Works Director and City Engineer Stanton Foerster, PE at Stanton@LucasTexas.us or (972) 912-1208. This report is intended to provide valuable information about your drinking water and the efforts made by the water system to provide safe drinking water. *Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono (972) 912-1203.* City of Lucas water is “Purchased Surface Water” from the North Texas Municipal Water District (www.ntmwd.com) obtained from Lavon Lake in Collin County, Texas.

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 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 (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 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.

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 & 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 City of Lucas.

Some individuals 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. The City of Lucas is responsible for providing high quality drinking water, but the City of Lucas 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 the 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>.

A **Source Water Susceptibility Assessment** for drinking water source(s) 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 drinking water source based on human activities and natural conditions. The information contained in the assessment allows the City of Lucas to focus source water protection strategies. For more information about sources of water, please refer to the Source Water Assessment Viewer available at the following URL:
<http://gis3.tceq.state.tx.us/swav/Controller/index.jsp?wtrsrc=>

The TCEQ has completed a Source Water Assessment for all drinking water systems that own their sources. The report 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 system(s) from which we purchase our water received the assessment report. In the Water Loss Audit submitted to the Texas Water Development Board, the City of Lucas estimated that 1,595,000 gallons of water were unaccounted for during the 2016 calendar year. Unaccounted for water use went to leaks, hydrant flushing, water works maintenance, fire-rescue operations, etc. For more information on source water assessments and protection efforts at our system, contact: Public Works Director/City Engineer Stanton Foerster, PE at Stanton@LucasTexas.us or (972) 912-1208. Further details about sources and source-water assessments are available in Drinking Water Watch at the following URL:
<http://dww.tceq.texas.gov/DWW>



“Waves” by Carolyn Kerr
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Avg - Regulatory compliance with some MCLs are based on running annual average of monthly samples.
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)
na - not applicable.
NTU - nephelometric turbidity units (a measure of turbidity)
pCi/L - picocuries per liter (a measure of radioactivity)
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.
ppt - parts per trillion or nanograms per liter (ng/L)
ppq - parts per quadrillion or picograms per liter (pg/L)

Coliform Bacteria								
Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level		Highest No. of Positive	Fecal Coliform or E. Coli Maximum Contaminant Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination	
0	1 positive monthly sample		0	0	0	No	Naturally present in the environment.	
NOTE: Reported monthly tests found no fecal coliform bacteria. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present.								
Regulated Contaminants								
Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Total Haloacetic Acids (HAA5)	2016	23.8	14.3-23.80	No goal for the total	60	ppb	No	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2016	36.2	25.1-36.2	No goal for the total	80	ppb	No	By-product of drinking water disinfection.
Bromate	2016	6	0.0 - 6.0	5	10	ppb	No	By-product of drinking water ozonation.
NOTE: Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.								
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Antimony	2016	Levels lower than detect level	0 - 0	6	6	ppb	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; and test addition.
Arsenic	2016	0.9	0.0 - 0.9	0	10	ppb	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium	2016	0.061	0.042 - 0.061	2	2	ppm	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium	2016	1.2	0.52 - 1.20	100	100	ppb	No	Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride	2016	0.93	0.13 - 0.93	4	4	ppm	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen)	2016	0.79	0.05 - 0.79	10	10	ppm	No	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
Selenium	2016	3.4	1.4 - 3.4	50	50	ppb	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
NITRATE ADVISORY: 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 advice from your health care provider.								
Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/photon emitters	5/2/2016	5.6	5.6 - 5.6	0	50	pCi/L	No	Decay of natural and man-made deposits.
Synthetic organic contaminants including pesticides and herbicides	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Atrazine	2016	0.61	0.31 - 0.61	3	3	ppb	No	Runoff from herbicide used on row crops.
Di (2-ethylhexyl) phthalate	2016	Levels lower than detect level	0 - 0	0	6	ppb	No	Discharge from rubber and chemical factories.
Turbidity								
			Limit (Treatment Technique)	Level Detected		Violation	Likely Source of Contamination	
Highest single measurement			1 NTU	0.78		No	Soil runoff.	
Lowest monthly percentage (%) meeting limit			0.3 NTU	96.20%		No	Soil runoff.	
NOTE: Turbidity is 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.								
Maximum Residual Disinfectant Level								
Chemical Used	Year	Average Level of Quarterly Data	Lowest Result of Single Sample	Highest Result of Single Sample	MRDL	MRDLG	Units	Source of Chemical
Chlorine Residual (Chloramines)	2016	3.19	1	4.6	4.0	<4.0	ppm	Disinfectant used to control microbes.
Chlorine Dioxide	2016	0	0	0	0.8	0.8	ppm	Disinfectant.
Chlorite	2016	0	0	0.115	1.0	N/A	ppm	Disinfectant.
Total Organic Carbon								
	Collection Date	Highest Level Detected	Range of Levels Detected		Units		Likely Source of Contamination	
Source Water	2016	4.23	3.14 4.23		ppm		Naturally present in the environment.	
Drinking Water	2016	2.8	1.37 - 2.80		ppm		Naturally present in the environment.	
Removal Ratio	2016	63.9%	25.7 - 63.9		% removal *		N/A	
NOTE: Total organic carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfection by-products. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. By-products of disinfection include trihalomethanes (THMs) and haloacetic acids (HAA) which are reported elsewhere in this report. * Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCEQ to be removed.								
Lead and Copper								
	Date Sampled	Action Level (AL) & (MCLG)	90th Percentile	# Sites Over AL	Units	Violation		Likely Source of Contamination
Copper	2016	1.3 & (1.3)	0.723	0	ppm	No		Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems.
Lead	2016	15 & (0)	0	0	ppb	No		Corrosion of household plumbing systems; erosion of natural deposits.
VIOLATION -- "Lead Consumer Notice"								
The violation began on 12/30/2016 and ended on 01/20/2017. The City of Lucas failed to provide the results of lead tap water monitoring to the consumers at the location water was tested. These were supposed to be provided no later than 30 days after learning the results.								
Unregulated Contaminants								
Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected		Units		Likely Source of Contamination	
Chloroform	2016	20.50	11-20.50		ppb		By-product of drinking water disinfection.	
Bromoform	2016	<1.0	<1.0		ppb		By-product of drinking water disinfection.	
Bromodichloromethane	2016	11.60	9.16-11.60		ppb		By-product of drinking water disinfection.	
Dibromochloromethane	2016	5.01	4.04-5.01		ppb		By-product of drinking water disinfection.	
NOTE: Bromoform, chloroform, dichlorobromomethane, and dibromochloromethane are disinfection by-products. There is no maximum contaminant level for these chemicals at the entry point to distribution.								
Secondary and Other Constituents Not Regulated (No associated adverse health effects)								
Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected		Units		Likely Source of Contamination	
Chloride	2016	70.3	15.2 - 70.3		ppm		Abundant naturally occurring element; used in water purification; by-product of oil field activity.	