



Annual Drinking Water Quality Report CITY OF LUCAS (TX0430054) Consumer Confidence Report (CCR) January 1 to December 31, 2015

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 you with important 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.

Sources of 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 (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.

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 & 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.

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>.

Information about Source Water Assessments – 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 2,294,061 gallons of water were unaccounted for during the 2015 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 and 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>

Regulated Contaminants Detected By The City of Lucas In 2015

Lead and Copper – City of Lucas

	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	09/13/2014	1.3	1.3	0.723	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	09/13/2014	0	15	2.47	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

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.

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

Regulated Contaminants Detected – City of Lucas

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2015	31	21.9 - 32.8	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2015	51	31.7 - 52.6	No goal for the total	80	ppb	N	By-product of drinking water disinfection.
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Nitrate [measured as Nitrogen]	2015	1	1.34 - 1.34	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Maximum Residual Disinfectant Level – City of Lucas

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)	2015	2.79	0.70	4.00	4.0	<4.0	ppm	Disinfectant used to control microbes.
Chlorine Dioxide	2015	<0.10	0	0.51	0.8	0.8	ppm	Disinfectant.
Chlorite	2015	0.05	0	0.51	1.0	N/A	ppm	Disinfectant.

Unregulated Contaminants - City of Lucas

Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	Units	Likely Source of Contamination
Chloroform	2015	23.8	4.9 – 23.8	ppb	By-product of drinking water disinfection.
Bromoform	2015	15.17	<1 – 15.17	ppb	By-product of drinking water disinfection.
Bromodichloromethane	2015	25.1	11.5 – 25.1	ppb	By-product of drinking water disinfection.
Dibromochloromethane	2015	16	6.09 - 16	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.

Regulated Contaminants Detected By The North Texas Municipal Water District in 2015

Coliform Bacteria (NTMWD)

Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest Number 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.	2		0	N	Naturally present in the environment.

Lead and Copper (NTMWD)

	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	06/20/2014	1.3	1.3	0.481	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	06/20/2014	0	15	1.59	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

Regulated Contaminants (NTMWD)

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Bromate	2015	2	0 - 8.9	0	10	ppb	N	By-product of drinking water disinfection.
Chlorite	2015	0.33	0 - 0.33	0.8	1	ppm	N	By-product of drinking water disinfection.
Haloacetic Acids (HAA5)*	2015	21	21.4 - 21.4	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2015	42	41.6 - 41.6	No goal for the total	80	ppb	N	By-product of drinking water disinfection.

Inorganic Contaminants

Antimony	2015	0.2	0 - 0.2	6	6	ppb	N	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; test addition.
Arsenic	2015	1	0 - 0.72	0	10	ppb	N	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium	2015	0.055	0.039 - 0.055	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chromium	2015	0.95	0.53 - 0.95	100	100	ppb	N	Discharge from steel and pulp mills; Erosion of natural deposits.
Cyanide	2015	184	101 - 184	200	200	ppb	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
Fluoride	2015	0.5	0.304 - 0.471	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]	2015	1	0.446 - 0.643	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Selenium	2015	2	0 - 2	50	50	ppb	N	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Radioactive Contaminants								
Beta/photon emitters	04/29/2010	4.4	4.4 - 4.4	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.
Synthetic organic contaminants including pesticides and herbicides								
Atrazine	2015	0.19	0.13 - 0.19	3	3	ppb	N	Runoff from herbicide used on row crops.
Di (2-ethylhexyl) phthalate	2015	1	0 - 0.7	0	6	ppb	N	Discharge from rubber and chemical factories.
Turbidity	Limit (Treatment Technique)			Level Detected		Violation	Likely Source of Contamination	
Highest single measurement	1 NTU			0.65 NTU		N	Soil runoff.	
Lowest monthly % meeting limit	0.3 NTU			99%		N	Soil runoff.	
Information Statement – 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								

Total Organic Carbon – The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set, unless a TOC violation is noted in the violations section.

North Texas Municipal Water District Violations Table

Chlorite – Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.			
Violation Type	Violation Begin	Violation End	Violation Explanation
MONITORING, ROUTINE (DBP), MAJOR	06/01/2015	06/30/2015	NTMWD 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.

Water Quality Test Result Definitions

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)

