2018 Water Quality Report

IN 1996, CONGRESS AMENDED THE SAFE DRINKING WATER ACT REQUIRING COMMUNITY SYSTEMS TO PROVIDE CUSTOMERS WITH AN ANNUAL REPORT OF THE QUALITY OF THEIR DRINKING WATER. WE ARE PROUD TO PRESENT OUR ANNUAL WATER QUALITY REPORT. THIS REPORT COVERS ALL TESTING COMPLETED BETWEEN JANUARY 1 AND DECEMBER 31, 2018.
The Garland Water Utilities (GWU) is a municipal water distribution and wastewater collection utility that is owned by the City of Garland. Treated drinking water is purchased from the North Texas Municipal Water District and delivered to the residents and businesses of Garland. The wastewater system collects, treats and releases the water that we send down the drain after use. For both systems, rigorous testing is conducted every month to ensure the quality of our drinking water and the proper handling of our wastewater.

An electronic copy of this report is available at bit.ly/GarlandQualityReport2018.

Español: Este informe incluye información importante sobre el agua potable. Si tiene preguantas o comentarios sobre este informe en español, favor delespaol, favor de llamar al tel. 972-205-3214 para hablar con una persona bilingue en español.

ALL DRINKING WATER MAY CONTAIN CONTAMINENTS

To ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. 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 the water poses a health risk.

The sources of drinking water (both tap 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 disolves naturally occurring minerals and in some cases, radioactive material and substances resulting from the presence of animals or from 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 may 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, which may also come from gas stations, urban storm water runoff, and septic systems; Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

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, color, or odor of drinking water, please contact our business office at 972-205-3210. For more information about contaminants and potential health effects, call the EPA's Safe Drinking Hotline at 800-426-4791.

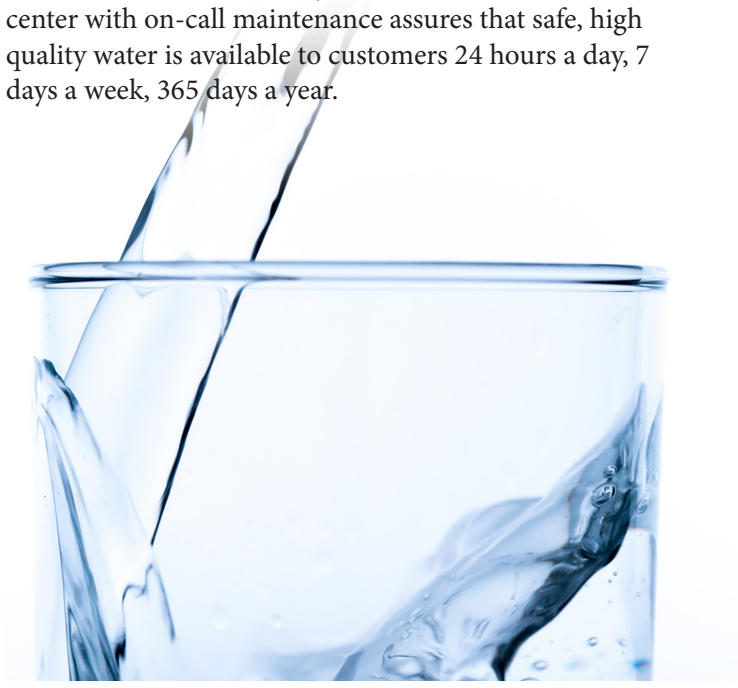
CRYPTOSPORIDIUM IN WATER

Cryptosporidium is a protozoan that is so small it can be seen only with a microscope. It affects the digestive tract of humans and animals. At this time, there is no specific drug therapy proven to be effective, but people with healthy immune systems will usually recover within two weeks. Symptoms of infection include nausea, diarrhea and abdominal cramps. However, immuno-compromised people are at greater risk of developing a life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

The NTMWD has tested the lake and treated water for the presence of cryptosporidium for several years and it was absent in all of the samples tested.

WHERE DOES MY WATER COME FROM?

All of Garland's treated water is purchased from the North Texas Municipal Water District (NTMWD). The water district pumps surface water from five sources: Lavon Lake, Jim Chapman Lake, Lake Tawakoni, Lake Texoma and the East Fork Raw Water Supply Project, commonly known as the 'wetlands.' Lavon Lake is currently the primary source of raw water. NTMWD conducts daily tests on both the raw water in Lavon Lake and the treated water they deliver to the City of Garland. The treated water is stored in eight ground storage tanks and four elevated storage tanks. Garland Water Utilities distribution and collection system includes approximately 2,100 miles of pipeline. A centralized water control system and customer call center with on-call maintenance assures that safe, high quality water is available to customers 24 hours a day, 7 days a week, 365 days a year.



IMPORTANT HEALTH INFORMATION

You may be more vulnerable than the general population to certain microbial contaminants, such as cryptosporidium, in drinking water. Infants, some elderly or immuno-compromised persons, such as those undergoing chemotherapy for cancer; those 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. If you suffer from one of these disorders/diseases, you should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by cryptosporidium are available from the EPA's Safe Drinking Water Hotline at 800-426-4791.

LEAD IN WATER

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. Garland Water Utilities 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 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 at 800-426-4791 or at www.epa.gov/safewater/lead.

SOURCE WATER ASSESSMENT

The Texas Commission on Environmental Quality (TCEQ) has completed a Source Water Susceptibility Report for all drinking water systems that own their sources. This report describes the susceptibility and types of contaminants that may come into contact with the drinking water source based on human activities and natural conditions. NTMWD received the assessment report. For information on how you may obtain a copy of this report, call 972-205-3218.

SAMPLING RESULTS

During the past year, several hundred water samples have been taken to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The results of this testing are displayed in the table on the next two pages. The state allows the City to monitor for certain substances less than once per year because the concentrations of those substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which it was taken. This report includes a list of all substances with range levels that were greater than zero. For a complete list of tested substances, visit GarlandWater.com.

CONSERVING WATER

Severe drought conditions and necessary water restrictions remind us just how precious water is and how much we tend to take it for granted. With less than 1% of the earth's fresh water source available, we need to learn to use water wisely. Water conservation is critical for meeting both local and the state's long-term water needs.

LAWN WATERING

Many homes and businesses in Garland are equipped with automatic sprinkler systems that can account for more than 50% of water use during the summer months. The Environmental Protection Agency (EPA) estimates that approximately 40% of outdoor water use is wasted due to the overwatering of lawns. Establishing a lawn watering schedule is effective in reducing water waste.

Lawn watering schedules should change throughout the year based on weather patterns, the presence of drought conditions or limited water supplies. To see current watering schedules, visit GarlandWater.com.

COMMUNITY PARTICIPATION

Garland Water Utilities is part of the City government. The Garland City Council meets the first and third Tuesday of each month beginning at 7 p.m. in the City Hall Council Chamber, 200 North Fifth St. Meetings are broadcast live on CGTV, the City government access channel on cable.

Garland City Council supports water efficiency and encourages residents to do their part in conserving this limited natural resource by using water wisely.

City of Garland - Consumer Confidence Report For Year 2018

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	5% positive samples	2	0	0	No	Naturally present in the environment.
NOTE: Reported monthly tests found no fecal coliform bacteria. Coliforms are bacteria 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)	2018	25	17.9 - 25	No goal for the total	60	ppb	No	By-product of drinking water disinfection.
Total Trihalomethanes (TThm)	2018	36	22 - 38.7	No goal for the total	80	ppb	No	By-product of drinking water disinfection.
Bromate	2018	Levels lower than detect level	0.0 - 0.0	5	10	ppb	No	By-product of drinking water ozanation.
NOTE: Not all sample results may have been used for calculating the Highest Level Detected. 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	2018	Levels lower than detect level	0.00-0.00	6	6	ppb	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; and test addition.
Arsenic	2018	Levels lower than detect level	0.00-0.00	0	10	ppb	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium	2018	0.068	0.058-0.068	2	2	ppm	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Beryllium	2018	Levels lower than detect level	0 - 0	4	4	ppb	No	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries.
Cadmium	2018	Levels lower than detect level	0 - 0	5	5	ppb	No	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints.
Chromium	2018	Levels lower than detect level	0 - 0	100	100	ppb	No	Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride	2018	0.264	0.00 - 0.264	4	4	ppm	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Mercury	2018	Levels lower than detect level	0 - 0	2	2	ppb	No	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland.
Nitrate (measured as Nitrogen)	2018	**1**	0.0694 - 0.859	10	10	ppm	No	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
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.								
Selenium	2018	Levels lower than detect level	0 - 0	50	50	ppb	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
Thallium	2018	Levels lower than detect level	0 - 0	0.5	2	ppb	No	Discharge from electronics, glass, and leaching from ore-processing sites; drug factories.
Radioactive Contaminants	**Collection Date**	**Highest Level Detected**	**Range of Levels Detected**	**MCLG**	**MCL**	**Units**	**Violation**	**Likely Source of Contamination**
Beta/photon emitters	2018	8	8.0 - 8.0	0	50	pCi/L	No	Decay of natural and man-made deposits.
Gross alpha excluding radon and uranium	2018	Levels lower than detect level	0 - 0	0	15	pCi/L	No	Erosion of natural deposits.
Radium	2018	Levels lower than detect level	0 - 0	0	5	pCi/L	No	Erosion of natural deposits.
Synthetic organic contaminants including pesticides & herbicides	**Collection Date**	**Highest Level Detected**	**Range of Levels Detected**	**MCLG**	**MCL**	**Units**	**Violation**	**Likely Source of Contamination**
2, 4, 5 - TP (Silvex)	2016	Levels lower than detect level	0 - 0	50	50	ppb	No	Residue of banned herbicide.
2, 4 - D	2016	Levels lower than detect level	0 - 0	70	70	ppb	No	Runoff from herbicide used on row crops.
Alachlor	2018	Levels lower than detect level	0 - 0	0	2	ppb	No	Runoff from herbicide used on row crops.
Aldicarb	2016	Levels lower than detect level	0 - 0	0	2	ppb	No	Runoff from herbicide used on row crops.
Aldicarb Sulfone	2016	Levels lower than detect level	0 - 0	0	2	ppb	No	Runoff from herbicide used on row crops.
Aldicarb Sulfoxide	2016	Levels lower than detect level	0 - 0	0	4	ppb	No	Runoff from herbicide used on row crops.
Atrazine	2018	0.30	0.20 - 0.30	3	3	ppb	No	Runoff from herbicide used on row crops.
Benzo (a) pyrene	2018	Levels lower than detect level	0 - 0	0	200	ppt	No	Leaching from linings of water storage tanks and distribution lines.
Carbofuran	2016	Levels lower than detect level	0 - 0	40	40	ppb	No	Leaching of soil fumigant used on rice and alfalfa.
Chlordane	2018	Levels lower than detect level	0 - 0	0	2	ppb	No	Residue of banned termiticide.
Dalapon	2016	Levels lower than detect level	0 - 0	200	200	ppb	No	Runoff from herbicide used on rights of way.
Di (2-ethylhexyl) adipate	2018	Levels lower than detect level	0 - 0	400	400	ppb	No	Discharge from chemical factories.
Di (2-ethylhexyl) phthalate	2018	Levels lower than detect level	0 - 0	0	6	ppb	No	Discharge from rubber and chemical factories.
Dibromochloropropane (DBCP)	2016	Levels lower than detect level	0 - 0	0	200	ppt	No	Runoff / leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards.
Dinoseb	2016	Levels lower than detect level	0 - 0	7	7	ppb	No	Runoff from herbicide used on soybeans and vegetables.
Endrin	2018	Levels lower than detect level	0 - 0	2	2	ppb	No	Residue of banned insecticide.
Ethylene dibromide	2016	Levels lower than detect level	0 - 0	0	50	ppt	No	Discharge from petroleum refineries.
Heptachlor	2018	Levels lower than detect level	0 - 0	0	400	ppt	No	Residue of banned termiticide.
Heptachlor epoxide	2018	Levels lower than detect level	0 - 0	0	200	ppt	No	Breakdown of heptachlor.
Hexachlorobenzene	2018	Levels lower than detect level	0 - 0	0	1	ppb	No	Discharge from metal refineries and agricultural chemical factories.
Hexachlorocyclopentadiene	2018	Levels lower than detect level	0 - 0	50	50	ppb	No	Discharge from chemical factories.
Lindane	2018	Levels lower than detect level	0 - 0	200	200	ppt	No	Runoff / leaching from insecticide used on cattle, lumber, and gardens.
Methoxychlor	2018	Levels lower than detect level	0 - 0	40	40	ppb	No	Runoff / leaching from insecticide used on fruits, vegetables, alfalfa, and livestock.

Oxamyl [Vydate]	2016	Levels lower than detect level	0 - 0	200	200	ppb	No	Runoff / leaching from insecticide used on apples, potatoes, and tomatoes.
Pentachlorophenol	2016	Levels lower than detect level	0 - 0	0	1	ppb	No	Discharge from wood preserving factories.
Picloram	2016	Levels lower than detect level	0 - 0	500	500	ppb	No	Herbicide runoff.
Simazine	2018	0.13	0 - 0.13	4	4	ppb	No	Herbicide runoff.
Toxaphene	2018	Levels lower than detect level	0 - 0	0	3	ppb	No	Runoff / leaching from insecticide used on cotton and cattle.
Volatile Organic Contaminants	**Collection Date**	**Highest Level Detected**	**Range of Levels Detected**	**MCLG**	**MCL**	**Units**	**Violation**	**Likely Source of Contamination**
1, 1, 1 - Trichloroethane	2018	Levels lower than detect level	0 - 0	200	200	ppb	No	Discharge from metal degreasing sites and other factories.
1, 1, 2 - Trichloroethane	2018	Levels lower than detect level	0 - 0	3	5	ppb	No	Discharge from industrial chemical factories.
1, 1 - Dichloroethylene	2018	Levels lower than detect level	0 - 0	7	7	ppb	No	Discharge from industrial chemical factories.
1, 2, 4 - Trichlorobenzene	2018	Levels lower than detect level	0 - 0	70	70	ppb	No	Discharge from textile-finishing factories.
1, 2 - Dichloroethane	2018	Levels lower than detect level	0 - 0	0	5	ppb	No	Discharge from industrial chemical factories.
1, 2 - Dichloropropane	2018	Levels lower than detect level	0 - 0	0	5	ppb	No	Discharge from industrial chemical factories.
Benzene	2018	Levels lower than detect level	0 - 0	0	5	ppb	No	Discharge from factories; leaching from gas storage tanks and landfills.
Carbon Tetrachloride	2018	Levels lower than detect level	0 - 0	0	5	ppb	No	Discharge from chemical plants and other industrial activities.
Chlorobenzene	2018	Levels lower than detect level	0 - 0	100	100	ppb	No	Discharge from chemical and agricultural chemical factories.
Dichloromethane	2018	Levels lower than detect level	0 - 0	0	5	ppb	No	Discharge from pharmaceutical and chemical factories.
Ethylbenzene	2018	Levels lower than detect level	0 - 0	0	700	ppb	No	Discharge from petroleum refineries.
Styrene	2018	Levels lower than detect level	0 - 0	100	100	ppb	No	Discharge from rubber and plastic factories; leaching from landfills.
Tetrachloroethylene	2018	Levels lower than detect level	0 - 0	0	5	ppb	No	Discharge from factories and dry cleaners.
Toluene	2018	Levels lower than detect level	0 - 0	1	1	ppm	No	Discharge from petroleum factories.
Trichloroethylene	2018	Levels lower than detect level	0 - 0	0	5	ppb	No	Discharge from metal degreasing sites and other factories.
Vinyl Chloride	2018	Levels lower than detect level	0 - 0	0	2	ppb	No	Leaching from PVC piping; discharge from plastics factories.
Xylenes	2018	Levels lower than detect level	0 - 0	10	10	ppm	No	Discharge from petroleum factories; discharge from chemical factories.
cis - 1, 2 - Dichloroethylene	2018	Levels lower than detect level	0 - 0	70	70	ppb	No	Discharge from industrial chemical factories.
o - Dichlorobenzene	2018	Levels lower than detect level	0 - 0	600	600	ppb	No	Discharge from industrial chemical factories.
p - Dichlorobenzene	2018	Levels lower than detect level	0 - 0	75	75	ppb	No	Discharge from industrial chemical factories.
trans - 1, 2 - Dicholoroethylene	2018	Levels lower than detect level	0 - 0	100	100	ppb	No	Discharge from industrial chemical factories.

Turbidity

	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest single measurement	1 NTU	0.45 NTU	No	Soil runoff.
Lowest monthly percentage (%) meeting limit	0.3 NTU	99.10%	No	Soil runoff.

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

Maximum Residual Disinfectant Level

Disinfectant Type	Year	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Units	Source of Chemical
Chlorine Residual (Chloramines)	2018	2.93	0.5	4.2	4.0	<4.0	ppm	Disinfectant / Water additive used to control microbes.
Chlorine Dioxide	2018	0	0	0	0.8	0.8	ppm	Disinfectant.
Chlorite	2018	0.012	0	0.48	1.0	N/A	ppm	Disinfectant.

Violation Type	Began	Ended	
			The City of Garland water system PWS ID TX0570010 has violated the monitoring and reporting requirements set by Texas Commission on Environmental Quality (TCEQ) in Title 30, Texas Administrative Code (30 TAC), Section 290, Subchapter F. Public water systems are required to properly disinfect water before distribution, maintain acceptable disinfection residuals within the distribution system, monitor the disinfectant residual at various locations throughout the distribution system, and report the results of that monitoring to the TCEQ on a quarterly basis. Results of regular monitoring are an indicator of whether or not your drinking water is safe from microbial contamination. This violation occurred in the monitoring period April 1 – June 30, 2018. We are taking the following actions to address this issue: system of verification for timely submission of water quality reports. Please share this information with all people who drink this water, especially those who may not have received this notice directly (i.e., people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail. If you have questions regarding this matter, you may contact Garland Water Operations at WaterOps@GarlandTX.gov or by calling 972 205-3210. Casimiro Ruiz, Garland Water Quality Supervisor. Posted on July 1, 2019.
Disinfectant Level Quarterly Report (DLQOR)	4/1/2018	6/30/2018	*NOTE: This violation addressed only the timely submission of testing results, not drinking water quality deficiencies. Testing results were within range and submitted to TCEQ.*

Total Organic Carbon

	Collection Date	Highest Level Detected	Range of Levels Detected	Units	Likely Source of Contamination
Source Water	2018	4.7	3.68 - 4.70	ppm	Naturally present in the environment.
Drinking Water	2018	3	1.85 - 3.00	ppm	Naturally present in the environment.
Removal Ratio	2018	54.4%	26.5 - 54.4	% 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

Contaminants	Collection Date	Number of sites Over AL	90th Percentile	MCLG	MCL	Units	Likely Source of Contamination
Lead	2018	2	3.88	0	15	ppb	Corrosion of household plumbing systems; erosion of natural deposits. Action Level = 15
Copper	2018	0	0.8109	1.3	1.3	ppm	Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems. Action Level = 1.3

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. The City of Garland 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 otential 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.

Cryptosporidium And Giardia					
Contaminants	**Collection Date**	**Highest Level Detected**	**Range of Levels Detected**	**Units**	**Likely Source of Contamination**
Cryptosporidium	2018	0	0 - 0	(Oo) Cysts/L	Human and animal fecal waste.
Giardia	2018	0	0 - 0	(Oo) Cysts/L	Human and animal fecal waste.
NOTE: Taken on treated water samples.					

Unregulated Contaminants					
Contaminants	**Collection Date**	**Highest Level Detected**	**Range of Levels Detected**	**Units**	**Likely Source of Contamination**
Chloroform	2018	10.00	6.19 - 13.9	ppb	By-product of drinking water disinfection.
Bromoform	2018	3.00	1.00 - 3.24	ppb	By-product of drinking water disinfection.
Bromodichloromethane	2018	11.00	7.7 - 14.5	ppb	By-product of drinking water disinfection.
Dibromochloromethane	2018	10.00	3.63 - 11.9	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.					

Unregulated Contaminant Monitoring Rule 2 (UCMR2)					
Contaminants	**Collection Date**	**Highest Level Detected**	**Range of Levels Detected**	**Units**	**Likely Source of Contamination**
N-nitrosodimethlyamine (NDMA)	2009	0.0023	0 - 0.0023	ppb	By-product of manufacturing process.
NOTE: Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Any unregulated contaminants detected are reported in this report. For additional information and data visit http://www.epa.gov/safewater/ucmr/ucmr2/index.html, or call the Safe Drinking Water Hotline at (800) 426-4791.					

Unregulated Contaminant Monitoring Rule 3 (UCMR3)					
Contaminants	**Collection Date**	**Highest Level Detected**	**Range of Levels Detected**	**Units**	**Likely Source of Contamination**
Chromium, Hexavalent	2015	0.0912	0 - 0.0912	ug/L	By-product of manufacturing process.

Secondary and Other Constituents Not Regulated					
Contaminants	**Collection Date**	**Highest Level Detected**	**Range of Levels Detected**	**Units**	**Likely Source of Contamination**
Aluminum	2018	Level lower than detect level	0 - 0	ppm	Erosion of natural deposits.
Bicarbonate	2014	92.3	90.9 - 92.3	ppm	Corrosion of carbonate rocks such as limestone.
Calcium	2018	55.3	43.6 - 55.3	ppm	Abundant naturally occurring element.
Chloride	2018	93.7	30.8 - 93.7	ppm	Abundant naturally occurring element; used in water purification; by-product of oil field activity.
Hardness as Ca/Mg	2017	164	159 - 164	ppm	Naturally occurring calcium and magnesium.
Iron	2018	Level lower than detect level	0 - 0	ppm	Erosion of natural deposits; iron or steel water delivery equipment or facilities.
Magnesium	2018	9.61	9.18 - 9.61	ppm	Abundant naturally occurring element.
Manganese	2018	0.0064	0.0037 - 0.0064	ppm	Abundant naturally occurring element.
Nickel	2018	0.0055	0.0053 - 0.0055	ppm	Erosion of natural deposits.
pH	2018	8.51	7.83 - 8.51	units	Measure of corrosivity of water.
Silver	2018	0.001	0 - 0.001	ppm	Erosion of natural deposits.
Sodium	2018	88.6	86.8 - 88.6	ppm	Erosion of natural deposits; by-product of oil field activity.
Sulfate	2018	134	86 - 134	ppm	Naturally occurring; common industrial by-product; by-product of oil field activity.
Total Alkalinity as CaCO3	2018	101	65 - 101	ppm	Naturally occurring soluble mineral salts.
Total Dissolved Solids	2018	556	288 - 556	ppm	Total dissolved mineral constituents in water.
Total Hardness as CaCO3	2018	188	105 - 188	ppm	Naturally occurring calcium.
Zinc	2018	Level lower than detect level	0 - 0	ppm	Moderately abundant naturally occurring element used in the metal industry.

UNREGULATED CONTAMINANTS

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determing the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Any unregulated contaminants detected are reported in the table above. For additional information and data visit http://www.epa.gov/safewater/ucmr/ucmr2/index.html, or call the Safe Drinking Water Hotline at 800-426-4791. Tap water samples were collected for lead and copper analysis from sample sites throughout the community.

WATER LOSS

The State of Texas requires retail public utilities to report its annual water loss to its customers. Water loss is usually the result of line leaks, water main breaks, line flushes and inaccurate meters. In 2018, Garland Water Utilities reported a water loss of 17.36% to the Texas Water Development Board.

TABLE DEFINITIONS

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

MCL (Maximum Contaminant Level) 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.

MCLG (Maximum Contaminant Level Goal) 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.

MRDL (Maximum Residual Disinfectant Level) 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.

MRDLG (Maximum Residual Disinfectant Level Goal) 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.

ND (Not Detected) Indicated that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units) Measurement of the clarity or turbidity of water. Turbidity in excess of 5 NTU is just noticable to the average person.

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

PPM (Parts Per Million) One part substance per million parts water or milligrams per liter - mg/L

PPB (Parts Per Billion) One part substance per billion parts water or micrograms per liter - ug/L