

City of Lewisville ANNUAL WATER QUALITY REPORT 2022



This report is a summary of the quality of water that the City of Lewisville provides to our customers. The report contains information and data compiled throughout 2022 from the most recent U.S. Environmental Protection Agency (EPA) required tests. This report also includes information about what our drinking water contained, where it came from, how it was treated, and general sources of contamination. Lewisville's water system is a "Superior" rated water system, which is the highest rating of the Texas Commission on Environmental Quality.

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 EPA's 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 Department of Public Services, Utilities Section at 972.219.3504.
- A Source Water Susceptibility Assessment for our drinking water source is currently being updated by the Texas Commission on Environmental Quality. 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. Further details about sources and source water assessments are available in Drinking Water Watch at <https://dww2.tceq.texas.gov/DWW/> or for more information about your water sources, refer to the Source Water Assessment Viewer at <https://www.tceq.texas.gov/gis/swaview>.

Information about Source Water

The City treats water at our Water Treatment Plant as well as purchases treated water from Dallas Water Utility and Upper Trinity Regional Water District.

The City of Lewisville's Water Treatment Plant pumps in water from Lewisville Lake, our surface water source, and is capable of producing twenty (20) million gallons of treated water daily. Drinking water is pumped into the distribution system through a series of pipe networks that distribute water to customers throughout the City. Elevated storage tanks provide additional storage and supply pressure to the distribution system.

Both State and Federal regulations dictate the standards for drinking water quality. These standards require minimum and maximum set points for contaminants and the inclusion of control elements that ensure the production of safe drinking water.

Lead & Copper Reporting

Contaminant	Location	Year	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	City of Lewisville	2021	1.3	1.3	0.63	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
	Dallas Water Utilities	2021			0.26				
	DCFWS 1-A	2022			0.83				
Lead	City of Lewisville	2021	0	15	1.4	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.
	Dallas Water Utilities	2021			0				
	DCFWS 1-A	2022			0				

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>.



2022 Water Quality Test Results

Disinfection By-Products	Location	Year	Highest Level Detected	Sample Range	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)*	City of Lewisville	2022	28.6	2.9 - 28.6	N/A	60	ppb	No	By-product of drinking water disinfection.
	Dallas Water Utilities		15.3	1.3-15.3					
	DCFWSD 1-A		7.5	3.9-7.5					
Total Trihalomethanes (TTHM)**	City of Lewisville	2022	28.6	2.9 - 28.6	N/A	80	ppb	No	By-product of drinking water disinfection.
	Dallas Water Utilities		17	4.7-17.0					
	DCFWSD 1-A		24.1	12.3-24.1					
Bromate	Dallas Water Utilities	2022	27.2	0-27.2	0	10^A			

*Highest Level Detected is the highest average of all HAA5 sample results collected at a location over a year
 **The highest Level Detected is the highest average of all TTHM sample results collected at a location over a year
 ^ The MCL for Bromate is the running average of monthly averages, computed quarterly [30 TAC 290.114(b)(5)]

Disinfectant Residual	Location	Year	Average Level	Sample Range	MRDL	MRDLG	Units	Violation	Source in Drinking Water
	City of Lewisville	2022	3.04	2.7-3.4	4	4	ppm	No	Water additive used to control microbes.
	Dallas Water Utilities		3.02	2.75-3.27					
	DCFWSD 1-A		2.14	1.8-2.3					

Inorganic Contaminants	Location	Year	Highest Level	Sample Range	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	City of Lewisville	2022	0.04	0.03 - 0.04	2	2	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
	Dallas Water Utilities		0.033	0.032-0.033					
Chromium	City of Lewisville	2022	2.6	0 - 2.6	100	100	ppb	No	Discharge from steel and pulp mills; Erosion of natural
Cyanide	City of Lewisville	2022	21.8	0 - 21.8	200	200	ppb	No	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
	Dallas Water Utilities		192	139-192					
Fluoride	City of Lewisville	2022	0.67	0.243 - 0.674	4	4	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
	Dallas Water Utilities		0.65	0.520-0.647					
Nitrate [measured as Nitrogen]	City of Lewisville	2022	1.1	0.326 - 1.1	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
	Dallas Water Utilities		1.19	0.400-1.19					
	DCFWSD 1-A		0.84	0.393-0.85					
Nitrite [measured as Nitrogen]	City of Lewisville	2022	0.0164	0-0.0164	1	1	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
	Dallas Water Utilities		0.017	0.0100-0.017					
	DCFWSD 1-A		0.0268	0-0.0268					

Coliform Bacteria	Location	Year	Total Coliform MCL	Highest Monthly % of Positive Samples	Units	Violation	Likely Source of Contamination
	City of Lewisville	2022	5% of monthly samples are positive.	1.9	Present/ Absent	No	Naturally present in the environment.
	Dallas Water Utilities			0.8			
	DCFWSD 1-A			0			

Radioactive Contaminants	Location	Year	Highest Level Detected	Sample Range	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/photon emitters	City of Lewisville	2020	4	4 - 4	0	50	pCi/L*	No	Decay of natural and man-made deposits.
	Dallas Water Utilities	2017	6.6	4.2-6.6	0	50			Decay of natural and man-made deposits.
Radon**	City of Lewisville	2020	< 3	< 3	N/A	N/A	pCi/L	No	Erosion of natural deposits.

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

**According to the EPA, "Radon is a naturally occurring radioactive gas that may cause cancer and may be found in drinking water and indoor air. Some people who are exposed to radon in drinking water may have an increased risk of getting cancer over the course of their lifetime, especially lung cancer." Radon has never been detected in Lewisville's drinking water.

Synthetic organic contaminants	Location	Year	Highest Level	Sample Range	MCLG	MCL	Units	Violation	Likely Source of Contamination
Atrazine	City of Lewisville	2022	0.2	0 - 0.2	3	3	ppb	No	Runoff from herbicide used on row crops.
	Dallas Water Utilities		0.2	0.10-0.2					
Simazine	City of Lewisville	2022	0.15	0 - 0.15	4	4	ppb	No	Herbicide runoff.
	Dallas Water Utilities		0.11	0.06-0.11					

Turbidity	Location	Year	Level Detected	Limit (Treatment Technique)	Lowest monthly % meeting limit	Units	Violation	Likely Source of Contamination
	City of Lewisville	2022	0.1	1	100	NTU	No	Soil runoff
	Dallas Water Utilities	2022	0.27	1	100			

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 system and disinfectants.

Total Organic Carbon	Location	Year	Highest Level Detected	Sample Range	MCL	Units	Violation	Likely Source of Contamination
	City of Lewisville	2022	2.37	0.62-2.37	Average SUVA ≤ 2%	ppm	No	Naturally present in the environment
	Dallas Water Utilities	2022	4.63	2.49-4.63				

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set.

Unregulated Contaminants	Location	Year	Average	Minimum	Maximum	MCLG	Units	Violation	Likely Source of Contamination
Chloroform	City of Lewisville	2022	9.73	4.38	27.1	70	ppb	No	Byproduct of drinking water disinfection.
	Dallas Water Utilities		2.61	1.08	5.13				
	DCFWSD 1-A		4.27	1.96	7.43				
Bromoform	City of Lewisville	2022	1.01	1.0	1.4	0	ppb	No	Byproduct of drinking water disinfection.
	Dallas Water Utilities		1.11	0	1.78				
	DCFWSD 1-A		2.46	2.03	2.85				
Bromodichloromethane	City of Lewisville	2022	6.02	3.78	11.5	0	ppb	No	Byproduct of drinking water disinfection.
	Dallas Water Utilities		3.19	2.55	3.54				
	DCFWSD 1-A		5.05	3.35	6.7				
Dibromochloromethane	City of Lewisville	2022	2.16	1.18	3.58	60	ppb	No	Byproduct of drinking water disinfection.
	Dallas Water Utilities		3.13	1.72	4.23				
	DCFWSD 1-A		6.00	4.29	7.58				

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 the following table. For additional information call the Safe Drinking Water Hotline at (800) 426-4791.

UCMR4 Unregulated Contaminants Monitoring Rule 4

The UCMR program was developed in coordination with the Contaminant Candidate List (CCL). The CCL is a list of contaminants that are not regulated by the National Primary Drinking Water Regulations, are known or anticipated to occur in public water systems, and may warrant regulation under the Safe Drinking Water Act. Data collected through UCMR is stored in the National Contaminant Occurrence Database (NCOD) to support the analysis and review of contaminant occurrence, guide the CCL selection process, and support the Administrator's determination of whether to regulate a contaminant in the interest of protecting public health.

UCMR4: Unregulated Contaminants Monitoring Rule 4	Location	Year	Contaminant	Units	Minimum	Minimum	MCL	Units	Source of Contamination
	City of Lewisville	2019	HAA5	ppm	0.35	41.79	60	ppb	By-product of drinking water disinfection.
			HAA6Br		0	10.25	N/A		By-product of drinking water disinfection.
			HAA9		0.35	48.55	N/A		By-product of drinking water disinfection.
			Manganese	0.84	0.4	1.9	50		Naturally-occurring element; commercially available in combination with other elements and minerals; used in steel production, fertilizer, batteries and fireworks; drinking water and

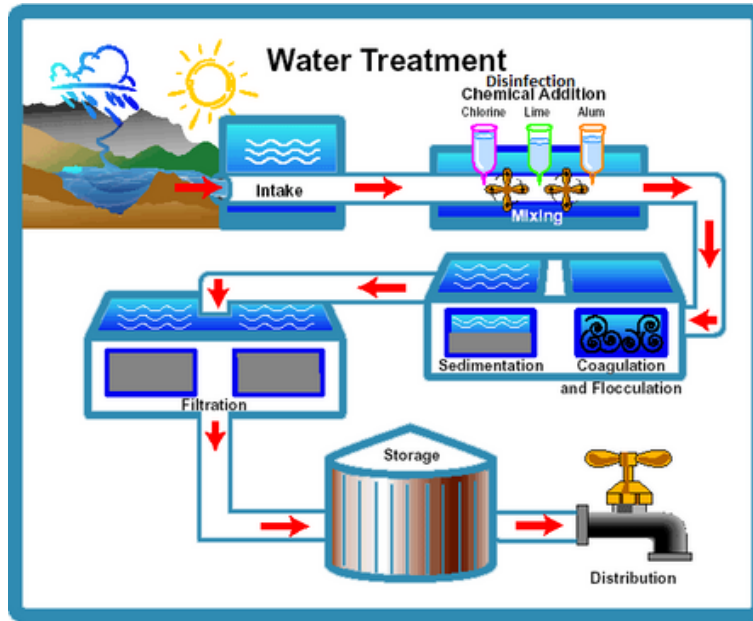
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Definitions and Abbreviations

Action Level:	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
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)
N/A:	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
ppm:	Milligrams per liter or parts per million
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.

WATER TREATMENT PROCESS

Drinking water purification is the process of removing contaminants from untreated water through a number of treatment steps to produce drinking water. Substances removed during the process may include particles of sand, minerals such as sulfur and iron, suspended particles of organic matter, microorganisms and viruses, and manmade chemical pollutants.



Untreated water is treated through a series of purification steps. As the untreated water enters the treatment plant, chemicals such as chlorine and ammonia are added to the water. Seasonally, carbon may be added to assist in the control of taste and odor.

Coagulation and flocculation are the processes that remove turbidity or color from the water with the use of chemical coagulants, ferric sulfate, and polymer. Lime is added to correct the pH of the water and particles in the water begin to form a floc that settles to the bottom of the clarifier tank and is removed.

Clarified water is separated from fine sediments in the water by filters that remove any remaining suspended particles in the water. Then, treated water is disinfected and stored in water storage tanks that allow time for the chemicals to mix throughout the water.



Bacteriological Sample Collection and Analysis

The City of Lewisville collects and analyzes a minimum of 120 samples each month throughout the City's water system. The samples are collected and analyzed following the Texas Commission on Environmental Quality guidelines and methods. These samples are analyzed for total Coliform, an indicator of contamination in the drinking water, as well as many other contaminants. The City of Lewisville has not had any violations of drinking water standards.

Water Loss

Our total water loss for 2022 was 16.8% or 1,271,504,545 gallons, based on required system evaluation conducted for calendar year 2022. The City's Conservation Plan target of 140 Gallons per Capita Day (GPCD) was exceeded this past year with a Total GPCD of 156.

Special notice for the elderly, infants, cancer patients, and people with HIV/AIDS or other immune problems.

Certain populations may be more vulnerable to microbial contaminants in drinking water and should seek advice from their physician or health care provider.

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 those with HIV/AIDS or other immune system disorders can be particularly at risk from infections. Since 1998, the City of Lewisville has monitored for Cryptosporidium, a microbial parasite that may be commonly found in surface water and may come from animal and human feces in the watershed. Cryptosporidium has never been detected in either untreated or treated drinking water in Lewisville. Additional guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline at 800.426.4791.

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 known as Secondary Constituents because they are not causes of health concerns. Secondary Constituents are regulated by the State of Texas, not the EPA. These constituents are reported in the table to the right to provide further information on your drinking water.

Secondary Constituents	Location	Average Level* (ppm)
ALUMINUM	City of Lewisville	0.0036
	Dallas Water Utilities	0.0108
BICARBONATE	City of Lewisville	102.9
	Dallas Water Utilities	106
CHLORIDE	City of Lewisville	32.7
	Dallas Water Utilities	33.74
HARDNESS	City of Lewisville	162
	Dallas Water Utilities	178.19
MANGANESE	City of Lewisville	0.011
	Dallas Water Utilities	0.011
SODIUM	City of Lewisville	27.3
	Dallas Water Utilities	32.85
SULFATE	City of Lewisville	84.15
	Dallas Water Utilities	79.87
TOTAL ALKALINITY	City of Lewisville	103.40
	Dallas Water Utilities	87.89

*Average taken from 2022 results reported in Drinking Water Watch

Year-Round Mandatory Stage 1 Water Restrictions

Watering schedule for residential customers are determined by street address.

Even-numbered address (ending in 0, 2, 4, 6, or 8) are allowed to water on
Tuesday and Saturday.

Odd-numbered address (ending in 1, 3, 5, 7, 9) are allowed to water on
Wednesday and Sunday.

Commercial and multi-family customers are allowed to water on
Monday and Thursday.

All customers are required to avoid watering during the hottest hours of the day when seasonally high temperatures will cause evaporation of water being applied by sprinklers.

During the peak summer months of May 1 to September 30, landscape watering by automatic irrigation or hose-end sprinklers will not be allowed between 10 a.m. and 6 p.m.

If you have questions about the quality of your water please contact the Department of Public Services at 972.219.3504 or visit our website at cityoflewisville.com.

Este informe incluye información importante acerca de su agua potable. Si usted tiene preguntas sobre la calidad de agua, o quisiera más información sobre la protección del origen del agua, y quiere usted participar in el proceso público, porfavo hable al Departamento de Servicios Públicos al 972.219.3504 o vaya a cityoflewisville.com.



LEWISVILLE

Deep Roots. Broad Wings. Bright Future.