# ANNUAL WATER QUALITY REPORT

Reporting Year 2022

***Presented By***

**Town of Little Elm**

LITTLE ELM

ACCREDITED AGENCY

A•P•W•A

Este reporte incluye información importante sobre el agua para tomar.
Para asistencia en español, favor de llamar al telefono (972) 377-5554.

**PWS ID#: 0610035**

## Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2022. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users. Please remember that we are always available should you ever have any questions or concerns about your water.

## Water Treatment Process

The treatment process consists of a series of steps. First, raw water is drawn from our water source and sent to an aeration tank, which allows for oxidation of the high iron levels that are present in the water. The water then goes to a mixing tank where polyaluminum chloride and soda ash are added. The addition of these substances causes small particles, called floc, to adhere to one another, making them heavy enough to settle into a basin from which sediment is removed. Chlorine is then added for disinfection. At this point, the water is filtered through layers of fine coal and silicate sand. As smaller suspended particles are removed, turbidity disappears and clear water emerges.

> "Thousands have lived without love, not one without water."
>
> —W.H. Auden

Chlorine is added again as a precaution against any bacteria that may still be present. (We carefully monitor the amount of chlorine, adding the lowest quantity necessary to protect the safety of your water without compromising taste.) Finally, soda ash (to adjust the final pH and alkalinity), fluoride (to prevent tooth decay), and a corrosion inhibitor (to protect distribution system pipes) are added before the water is pumped to sanitized underground reservoirs and water towers and into your home or business.

## 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 immunocompromised 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. 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 Safe Drinking Water Hotline at (800) 426-4791.

## What Causes the Pink Stain on Bathroom Fixtures?

The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, and toothbrush holders and on pets' water bowls is caused by the growth of the bacterium Serratia marcescens. Serratia is commonly isolated from soil, water, plants, insects, and vertebrates (including humans). The bacteria can be introduced into the house through any of the abovementioned sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive.

The best solution to this problem is to clean and dry these surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence. Serratia will not survive in chlorinated drinking water.

## Lead in Home Plumbing

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 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 two 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.

**QUESTIONS?** For more information about this report, or for any questions relating to your drinking water, please call Tim Walker, Utilities Manager, at (972) 377-5554.

## Source Water Assessment

The Texas Commission on Environmental Quality 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 from which we purchase our water received the assessment report.

Water Supplier: North Texas Municipal Water District

Source Names: Lake Lavon, Lake Texoma, Jim Chapman Lake

Susceptibility Rating: Low

For more information on source water assessments and protection efforts at our system, or If you would like a copy of our assessment, contact Tim Walker at (972) 377-5554.

## How Long Can I Store Drinking Water?

The disinfectant in drinking water will eventually dissipate even in a closed container. If that container housed bacteria prior to filling up with the tap water the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

## Water Conservation Tips

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

## Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration 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 these contaminants does not necessarily indicate that the water poses a health risk.

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 can acquire naturally occurring minerals, in some cases radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and which may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

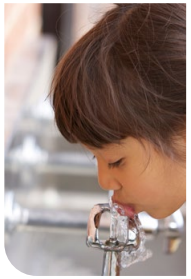
Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste, odor, or color of drinking water, please contact our business office. For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## Water Loss Audit

In the water loss audit submitted to the Texas Water Development Board during the year covered by this report, our system lost an estimated [insert amount] gallons of water. If you have any questions about the water loss audit, please call (972) 377-5554.

## Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.



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 Violation column).

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

**REGULATED SUBSTANCES**

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | MCL [MRDL] | MCLG [MRDLG] | AMOUNT DETECTED | RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|
| **Atrazine** (ppb) | 2022 | 3 | 3 | 0.12 | 0.1–0.12 | No | Runoff from herbicide used on row crops |
| **Barium** (ppm) | 2022 | 2 | 2 | 0.061 | 0.060–0.061 | No | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits |
| **Beta/Photon Emitters** (pCi/L) | 2022 | 50[1] | 0 | 4.7 | 4.7–4.7 | No | Decay of natural and human-made deposits |
| **Bromate** (ppb) | 2022 | 10 | 0 | 4.9 | 4.9–4.9 | No | By-product of drinking water disinfection |
| **Chloramines** (ppm) | 2022 | [4] | [4] | 2.32 | 0.59–3.38 | No | Water additive used to control microbes |
| **Chlorite** (ppm) | 2022 | 1 | 0.8 | 0.145 | ND–0.72 | No | By-product of drinking water disinfection |
| **Fluoride** (ppm) | 2022 | 4 | 4 | 0.688 | 0.278–0.688 | No | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories |
| **Haloacetic Acids [HAAs]–Stage 1** (ppb) | 2022 | 60 | NA | 23 | 14.3–23 | No | By-product of drinking water disinfection |
| **Nitrate** (ppm) | 2022 | 10 | 10 | 0.439 | 0.158–0.439 | No | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| **Simazine** (ppb) | 2022 | 4 | 4 | ND | NA | No | Herbicide runoff |
| **TTHMs [total trihalomethanes]–Stage 1** (ppb) | 2022 | 80 | NA | 42.2 | 23.9–42.2 | No | By-product of drinking water disinfection |

**Tap water samples were collected for lead and copper analyses from sample sites throughout the community**

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AL | MCLG | AMOUNT DETECTED (90TH %ILE) | SITES ABOVE AL/TOTAL SITES | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|
| **Copper** (ppm) | 2022 | 1.3 | 1.3 | 0.216 | 0/30 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| **Lead** (ppb) | 2022 | 15 | 0 | 0.761 | 0/30 | No | Lead service lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits |

## Definitions

**90th %ile:** The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

**NA:** Not applicable.

**ND (Not detected):** Indicates that the substance was not found by laboratory analysis.

**pCi/L (picocuries per liter):** A measure of radioactivity.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**SCL (Secondary Contaminant Level):** These standards are developed to protect aesthetic qualities of drinking water and are not health based.

## SECONDARY SUBSTANCES

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | SCL | MCLG | AMOUNT DETECTED | RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|
| **Chloride** (ppm) | 2022 | 300 | NA | 107 | 30.0–107 | No | Runoff/leaching from natural deposits |
| **Manganese** (ppb) | 2022 | 50 | NA | 159 | 4–159 | No | Leaching from natural deposits |
| **pH** (units) | 2022 | >7.0 | NA | 9.20 | 7.00–9.20 | No | Naturally occurring |
| **Total Dissolved Solids [TDS]** (ppm) | 2022 | 1,000 | NA | 492 | 269–492 | No | Runoff/leaching from natural deposits |

## UNREGULATED SUBSTANCES [2]

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AMOUNT DETECTED | RANGE LOW-HIGH | TYPICAL SOURCE |
|---|---|---|---|---|
| **Bromodichloromethane** (ppb) | 2022 | 16.6 | 8.51–16.6 | By-product of drinking water disinfection |
| **Bromoform** (ppb) | 2022 | 4.14 | 1.21–4.14 | By-product of drinking water disinfection |
| **Calcium** (ppm) | 12/01/2022 | 69.8 | 32.2–69.8 | Abundant naturally occurring element |
| **Chloroform** (ppb) | 2022 | 12.6 | 8.13–12.6 | By-product of drinking water disinfection |
| **Dibromochloromethane** (ppb) | 2022 | 12.5 | 6.06–12.5 | By-product of drinking water disinfection |
| **Magnesium** (ppm) | 12/01/2022 | 9.70 | 9.61–9.70 | Abundant naturally occurring element |
| **Nickel** (ppb) | 12/31/2022 | 0.0098 | 0.0069–0.0098 | Naturally occurring |
| **Sodium** (ppm) | 12/31/2022 | 95.4 | 26.5–95.4 | Erosion of natural deposits; by-product of oilfield activity |
| **Sulfate** (ppm) | 2022 | 171 | 84.2–171 | Naturally occurring; Common industrial by-product; By-product of oilfield activity |
| **Total Alkalinity [as CaCO3]** (ppm) | 12/01/2022 | 139 | 69–139 | Naturally occurring soluble mineral salts |
| **Total Hardness [as CaCO3]** (ppm) | 12/01/2022 | 194 | 90–194 | Naturally occurring calcium |

[1] The MCL for beta particles is 4 millirems per year. U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

[2] Unregulated contaminants are those for which U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist U.S. EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

## Where Does My Water Come From?

The Town of Little Elm purchases its water from North Texas Municipal Water District, located in Wylie. The water is drawn from surface water sources including Lake Lavon (Collin County, Texas), Lake Texoma (Grayson and Bryan Counties, Oklahoma), and Jim Chapman Lake (Delta and Hopkins Counties, Texas).