

ANNUAL

WATER QUALITY *Water testing performed in 2008* REPORT



LITTLE ELM

TOWN OF LITTLE ELM
EAST SYSTEM



PWS ID#: 0610035

Este reporte incluye informacion importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono (214) 975-0471.

Meeting the Challenge

We are once again proud to present to you our annual water quality report. This edition covers all testing completed from January 1 through December 31, 2008. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts about the information in this report. After all, well-informed customers are our best allies.

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 U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Where Do We Get Our Drinking Water?

Our drinking water is obtained from surface water sources. The surface water comes from the North Texas Municipal Water District, which draws water from Lakes Lavon, Texoma, and Cooper.

Source Water Assessment

TCEQ completed an assessment of our source water, and results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for our water system are based on this susceptibility and previous sample data. Any detection of these contaminants will be found in the report. If we receive or purchase water from another system, their susceptibility is not included in this assessment. For more information on source water assessments and protection efforts at our system, please contact us.



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.

Public Participation Opportunities

Date: First and third Tuesday of each month

Time: 7:00 PM

Location: 100 West Eldorado Pkwy.

Phone No: (214) 975-0471

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Sandy DeVault, Public Works Administrative Office, at (214) 975-0470.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at www.nrdc.org/water/drinking/bw/exesum.asp.



What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred and sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef.

According to the U.S. EPA, the average American uses about 100 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 8,000 cubic feet; twice the global per capita average. With water use increasing six-fold in the past century, our demands for freshwater are rapidly outstripping what the planet can replenish.

To check out your own water footprint, go to www.h2oconserve.org, or visit www.waterfootprint.org to see how the water footprints of other nations compare.

Lead and Drinking 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. The Town of Little Elm 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 or at www.epa.gov/safewater/lead.



Sampling Results

During the past year we have taken water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

The state requires us to monitor 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) | 2008 | 3 | 3 | .12 | .10-.12 | No | Runoff from herbicide used on row crops |
| Barium (ppm) | 2008 | 2 | 2 | .04 | .039-.041 | No | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits |
| Beta/Photon Emitters ¹ (pCi/L) | 2008 | 50 | 0 | 3.5 | 2.6-4.4 | No | Decay of natural and man-made deposits |
| Chloramines (ppm) | 2008 | [4] | [4] | 2.27 | 0.5-3.7 | No | Water additive used to control microbes |
| Chlorine Dioxide (ppb) | 2008 | 800 | 800 | 40 | ND-560 | No | Water additive used to control microbes |
| Chlorite (ppm) | 2008 | 1 | 0.8 | .49 | .01-.65 | No | By-product of drinking water disinfection |
| Fluoride (ppm) | 2008 | 4 | 4 | .47 | .45-.47 | No | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories |
| Haloacetic Acids [HAA] (ppb) | 2008 | 60 | NA | 27 | 19.1-37.9 | No | By-product of drinking water disinfection |
| Nitrate (ppm) | 2008 | 10 | 10 | .45 | .42-.45 | No | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| TTHMs [Total Trihalomethanes] (ppb) | 2008 | 80 | NA | 40.4 | 30-52.7 | No | By-product of drinking water chlorination |
| Total Coliform Bacteria (# positive samples) | 2008 | Two or more coliform found samples in any single month | 0 | 1 | NA | No | Naturally present in the environment |
| Turbidity (NTU) | 2008 | TT | NA | .43 | .04-.43 | No | Soil runoff |
| Turbidity (Lowest monthly percent of samples meeting limit) | 2008 | TT | NA | 98 | NA | No | Soil runoff |

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%TILE) | SITES ABOVE AL/TOTAL SITES | VIOLATION | TYPICAL SOURCE |
|--------------------------------|-----------------|-----|------|-----------------------------------|----------------------------------|-----------|--|
| Copper (ppm) | 2007 | 1.3 | 1.3 | 0.351 | 0/30 | No | Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives |
| Lead (ppb) | 2007 | 15 | 0 | 0.42 | 0/30 | No | Corrosion of household plumbing systems; Erosion of natural deposits |

UNREGULATED SUBSTANCES²

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AMOUNT DETECTED | RANGE LOW-HIGH | TYPICAL SOURCE |
|--------------------------------|-----------------|--------------------|-------------------|---|
| Bromodichloromethane (ppb) | 2008 | 18.44 | 12.7-25.3 | By-product of drinking water disinfection |
| Bromoform (ppb) | 2008 | 1.6 | ND-2.51 | By-product of drinking water disinfection |
| Chloroform (ppb) | 2008 | 23.79 | 13.35-31.8 | By-product of drinking water disinfection |
| Dibromochloromethane (ppb) | 2008 | 9.05 | 5.2-15.6 | By-product of drinking water disinfection |
| Sodium (ppm) | 2008 | 38 | 35-40 | Erosion of natural deposits; By-product of oil field activity |
| Sulfate (ppm) | 2008 | 71 | 62-80 | Naturally occurring; Common industrial by-products; By-product of oil field activity |

OTHER SUBSTANCES

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AMOUNT DETECTED | RANGE LOW-HIGH | TYPICAL SOURCE |
|--|-----------------|--------------------|-------------------|---|
| Acetone (ppb) | 2008 | 8.14 | 5.28–8.14 | NA |
| Bicarbonate (ppm) | 2008 | 110 | 108–111 | Corrosion of carbonate rock such as limestone |
| Calcium (ppm) | 2008 | 61.1 | 60.4–61.8 | Abundant naturally occurring element |
| Haloacetic Acids [HAA]–IDSE Results (ppb) | 2007 | 20.1 | ND–40.4 | By-product of drinking water disinfection |
| Hardness as Ca/Mg (ppm) | 2008 | 174 | 172–176 | Naturally occurring calcium |
| Magnesium (ppm) | 2008 | 5.3 | 5.3–5.3 | Abundant naturally occurring element |
| Nickel (ppm) | 2008 | .004 | .004–.004 | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories |
| TTHMs [Total Trihalomethanes]–IDSE Results (ppb) | 2007 | 51.6 | ND–65.2 | By-product of drinking water disinfection |
| Total Hardness as CaCO ₃ (ppm) | 2008 | 215 | 215–215 | Naturally occurring calcium |
| Total Alkalinity as CaCO ₃ (ppm) | 2008 | 110 | 108–111 | Naturally occurring soluble mineral salts |

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

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

Definitions

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.

NTU (Nephelometric Turbidity Units):

Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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).

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

