



**LEWISVILLE**  
Deep Roots. Broad Wings. Bright Future.

## *Your Drinking Water Meets or Exceeds All Federal Drinking Water Requirements*

This report is a summary of the quality of the water that the City of Lewisville provides our customers. The report contains information and data compiled throughout 2011 from the most recent U.S. Environmental Protection Agency (EPA) required tests. This report also includes information about what your drinking water contained, where it came from, how it was treated and general sources of contamination.

### **All Drinking Water May Contain Contaminants**

When drinking water meets federal standards there may not be any health based benefits to purchasing bottled water or point of service devices. 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 800.426.4791.

# 2011 Drinking Water Quality Report

### **Special Notice**

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. Since 1998, the City of Lewisville has monitored for Cryptosporidium, a microbial parasite that may be commonly found in surface water. Cryptosporidium may come from animal and human feces in the watershed. Cryptosporidium has never been detected in either the untreated nor treated drinking water. 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.

## Inorganic Contaminants

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Year	Contaminant	Unit	MCL	MCLG	Avg. Level	Min. Level	Max. Level	Major Sources	Violation
2011	Antimony	ppb	6	6	0.420	0.213	1.0	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder	No
2011	Arsenic	ppb	10	0	0.865	0.472	1.05	Erosion of natural deposits; runoff from orchards, runoff from glass & electronics production wastes	No
2011	Barium	ppm	2	2	0.018	0.01	0.036	Discharge of Drilling wastes; discharge from metal refineries; erosion of natural deposits	No
2011	Chromium	ppb	100	100	0.962	0.6	1.32	Discharge from steel and pulp mills; erosion of natural deposit	No
2011	Fluoride	ppm	4	4	0.584	0.26	0.76	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories	No
2011	Nitrate	ppm	10	10	0.616	0.21	0.94	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits	No
2011	Selenium	ppb	50	50	2.21	2.15	2.27	Discharge from petroleum refineries; erosion of natural deposits; discharge from mines	No
2011	Thallium	ppb	2	0.5	0.204	0.012	0.396	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories	No

## Radioactive Contaminants

2011	Beta Emitters	pCi/L*	50	0	5	<,4.0	7.2	Decay of natural and man-made deposits	No
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## Organic Contaminants

2011	Simazine	ppb	4	4	0.32	0.14	0.78	Herbicide runoff	No
2011	Atrazine	ppb	3	3	0.26	0.16	0.37	Runoff from herbicide used on row crops	No

## Disinfection Byproducts

2011	TTHM's	ppb	80	None	16.3**	5.8	27.6	By-product of drinking water chlorination	No
2011	Total HAA	ppb	60	None	12.6**	7.5	16.4	By-product of drinking water chlorination	No

## Microbiological Contaminants

Year	Contaminant	Units	Highest Monthly % of Positive Samples	MCLG	Action Level	Major Sources	Violation
2011	Total Coliform	Sample	0	0	≥5%	Naturally present in the environment	No

## Important Information for Understanding the Water Quality Table

**MCL** – the maximum contaminant level is the highest level of contaminant that is allowed in drinking water.

**MCLG** – The maximum contaminant level goal is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

**pCi/L** – Pico-curies per liter is a measure of radioactivity in water \*50pCi/L = 4 mrem/year

**ppb** – parts per billion or micrograms per liter

**ppm** – parts per million or milligrams per liter

**L/mg-m** – Liters per milligram meter

**MRDL** - Maximum Residual Disinfectant Level

**MRDLG** - Maximum Residual Disinfectant Level Goal

**TTHM** – Total Trihalomethanes

**HAA** – Haloacetic Acids

\*\* - Annual running averages

**Min** - Minimum

**Max** – Maximum

**Avg** - Average

**TOC** – Total Organic Carbon, has no health effects; however, TOC provided a medium for the formation of disinfection by-products. These by-products include Trihalomethanes and Haloacetic acids. Drinking water containing these in excess of the ML may lead to adverse health effects, liver or kidney problems, or nervous system effects and may lead to an increased risk of getting cancer.

**NTU** – Nephelometric Turbidity Units. Turbidity has no health effects; however, it can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

## Lead and Copper Reporting

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 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](http://www.epa.gov/safewater/lead). Below you will find the City of Lewisville's monitoring for Lead and Copper.

Year	Contaminant	Unit	90 <sup>th</sup> %	MCLG	Action Level	Sites Exceeding Action Level	Major Source	Violation
2009	Lead	ppb	1.18	0	15	0	Corrosion of household plumbing systems; erosion of natural deposits.	No
2009	Copper	ppm	0.698	1.3	1.3	0	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.	No

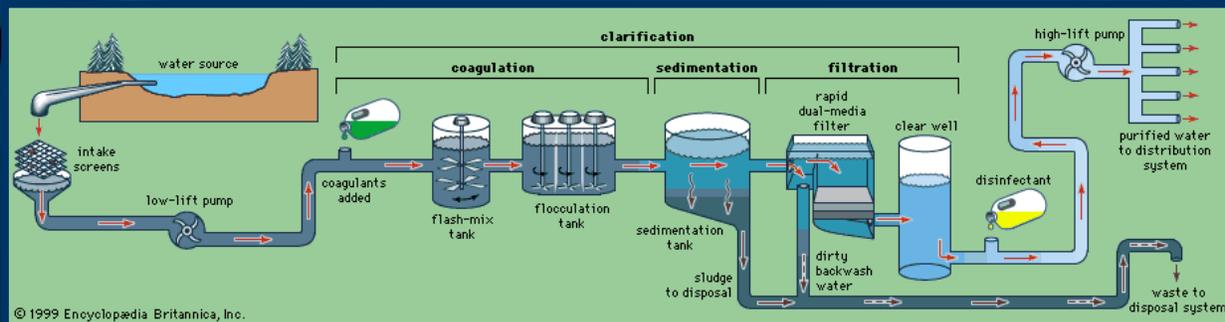
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## Where Do We Get Our Water

Our drinking water is pumped from Lake Lewisville, our surface water source, to our Water Treatment Plant for treatment prior to distribution to consumers. Drinking water is also purchased from Dallas Water Utilities.

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. Contaminants that may be present in source water before treatment include: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants, and organic chemical contaminants.

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. The information contained in the assessment allow us to focus our source water protection strategies. Some of this source water assessment information will be available on the Texas Drinking Water Watch at [www.tceq.state.tx.us/DWW](http://www.tceq.state.tx.us/DWW).



## The Drinking Water Treatment Process

Drinking water purification is the process that removes 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 man-made chemical pollutants.

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

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

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The clarified water is then separated from fine sediments in the water by Filtration. The filters remove any remaining suspended particles in the water. The treated water is then disinfected with chloramines. The treated water is stored in clearwells, water storage tanks, that allow time for the chloramines to mix throughout the water. The water is then pumped into the distribution system throughout the water.



Drinking water is then pumped into the distribution system through a series of pipe networks which distribute water to customers throughout the city. Elevated storage tanks provided additional storage and supply pressure to the distribution system. The City of Lewisville's Water Production Plant is capable of producing 20 million gallons of treated water each day. 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.

## Treatment Requirements

Year	Contaminant	Units	MRDL	MRDLG	Avg Level	Min Level	Max Level	Major Sources	Violation
2011	Chloramines	ppm	4**	4**	3.17	2.8	3.2	Water additive used to control microbes	No
Year	Contaminant	Units	Action Level	Highest Single Measure	Lowest Monthly % Samples Meeting Limits		Major Sources	Violation	
2011	Turbidity	NTU	0.3	0.12	100%		Soil Runoff	No	
Year	Contaminant	Units	MCL	Avg	Range	Major Sources		Violation	
2011	TOC Removal	L/mg/m	≤2% Avg. SUVA	1.57	1.09-1.90	Total Organic Carbon is naturally present in the environment		No	



## Bacteriological Sample Collection and Analysis

The City of Lewisville collects and analyzes a minimum of 100 samples each month throughout the city's water system. The samples are collected and analyzed following 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.

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## Secondary Constituents

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 for health concerns. Secondary constituents are regulated by the State of Texas, not the EPA. These constituents are not required to be reported in this document, but they may greatly affect the appearance and taste of your water.

Constituent	Average Level
Aluminum	0.03 ppm
Bicarbonate	52 ppm
Chloride	21.7 ppm
Hardness	102 ppm
Manganese	0.92 ppb
pH	8.5 standard units
Sodium	24.9 ppm
Sulfate	59.7 ppm
Total Alkalinity	52.4 ppm

## Unregulated Contaminants and the Unregulated Contaminant Monitoring Rule 2

Unregulated contaminants are those for which the EPA has not established drinking water standards. Unregulated contaminant monitoring assists the EPA in determining the occurrence of these contaminants in drinking water and whether future regulations are warranted. Chloroform, Bromoform, Bromodichloromethane, and Dibromochloromethane are all disinfection byproducts that are the result of drinking water production. There is no maximum contaminant level for these chemicals at the entry point to distribution. The City of Lewisville has participated in gathering data under the UCMR; any unregulated contaminants detected are reported in the following table. For more information and data, visit [www.epa.gov/safewater/ucmr/ucmr2/index.html](http://www.epa.gov/safewater/ucmr/ucmr2/index.html), or call the Safe Drinking Water Hotline at 800.426.4791.

Year or Range	Contaminant	Avg Level	Min Level	Max Level	Units	Source of Contamination
2011	Chloroform	5.88	2	14	ppb	Byproduct of drinking water disinfection
2011	Bromoform	0	0	0	ppb	Byproduct of drinking water disinfection
2011	Bromodichloromethane	4.12	1.8	9.8	ppb	Byproduct of drinking water disinfection
2011	Dibromochloromethane	1.99	1	3.8	ppb	Byproduct of drinking water disinfection
2010	N-Nitroso-Dimethylamine (NDMA)	0.002	<0.002	0.006	ppb	Nitrosamines can form as intermediates and byproducts in chemical synthesis and manufacture of rubber, leather, and plastics; can form spontaneously by reaction of precursor amines with nitrosating agents (nitrate and related compounds), or by action of nitrate-reducing bacteria. Foods such as bacon and malt beverages can contain nitrosamines; there is no evidence that they form in the upper GI tract.



## Willie Water's Top Water Conservation Tips

For more Water Conservation information visit the City of Lewisville's website at [www.cityoflewisville.com](http://www.cityoflewisville.com).

### *Indoors:*

- ◆ **W**ater leaks inside and outdoors should be fixed. Put food coloring in your toilet, if it seeps into the toilet bowl without flushing, you have a leak. An inexpensive seal can save over 1,000 gallons per month.
- ◆ **I**nstall water efficient appliances for optimum water savings.
- ◆ **L**etting water run while shaving or brushing your teeth can add up to hundreds of gallons per month that could be saved by just turning the water off.
- ◆ **L**eft over water can be reused on house plants, instead of throwing it down the sink.
- ◆ **I**nstead of disposing of waste down the garbage disposal, compost vegetable food wastes...you'll save gallons and create a natural fertilizer your plants will love.
- ◆ **E**fficient showerheads and toilets can save over 750 gallons per month.

### *And Outdoors:*

- ◆ **W**ater early in the morning or after sunset to minimize evaporation.
- ◆ **A**void overfilling swimming pools.
- ◆ **T**reat the soil with mulch or compost.
- ◆ **E**mploy a pool cover to reduce evaporation.
- ◆ **R**ely on plantings of native and adapted vegetation.
  
- ◆ **W**ash windows with commercial window cleaner; not running water. Don't "sweep" sidewalks and driveways with running water.
- ◆ **I**nstall drip irrigation systems for bedded plants, trees, and shrubs.
- ◆ **S**top cutting grass too short. Keep grass 2-3 inches tall to shade root systems.
- ◆ **E**nd over fertilizing; this causes polluted runoff and additional water needs.