

Lake Mexia Water Treatment Plant  
Surface Water  
2006 Test Results Table

**Microbiological Contaminants**

Constituent	MCL	MCLG	Level Found	Violation	Source of Constituent
Turbidity	TT = 1 NTU	0	0.41 NTU	No	Soil runoff.
	TT = percentage of samples < 0.3 NTU		98.63%	No	

Turbidity has no health effects. Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

To be considered a violation, the NTU must be higher than 0.3 NTU in more than 5% of the samples the District takes each month. The highest percentage of samples above 0.3 NTU, in any one month, resulted in 98.63% percent of those samples being at or below 0.3 NTU.

**Radioactive Contaminants**

Constituent	Unit of Measure	MCLG	MCL	Level Detected	Violation	Source of Constituent
(Gross) Beta/photon emitters	pCi/L	0	50	5.5	No	Decay of natural and manmade deposits.

EPA considers 50 pCi/L to be the level of concern for beta particles. (Gross) Beta/photon emitters were tested for in 2003. This is in accordance with the regulations.

**Inorganic Contaminants**

Constituent	Unit of Measure	MCLG	MCL	Average Detected	Level Detected	Violation	Source of Constituent
Arsenic 8/30/05	PPB	0	10	NA	2.0	No	Erosion of natural deposits, runoff from orchards; runoff from glass and electronics production wastes.

Barium 8/30/05	PPM	2	2	NA	0.079	No	Discharge of drilling wastes; discharge from metal refineries, erosion of natural deposits.
Nitrate (as Nitrogen) 8/30/05	PPM	10	10	.195	.19 - .20	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Fluoride 8/30/05	PPM	4	4	NA	0.2	No	Water additive, which promotes strong teeth.

#### Volatile Organic Contaminants

Constituent	Unit of Measure	MCLG	MCL	Level Detected	Violation	Source of Constituent
TTHMS (Total Trihalomethanes)	PPB	0	80	25.1	No	By-product of drinking water chlorination.
Haloacetic Acids	PPB	N/A	60	56.7	No	

Trihalomethanes (THMS) are a family of chemicals that are disinfection by-products. Currently, the regulations are based on the sum of the concentration of all four THMs (chloroform, dichlorobromomethane, dibromochloromethane, and bromoform). The detected disinfection by-products are listed in the Unregulated Contaminants table.

**HEALTH EFFECTS:** Some people who drink water containing Trihalomethanes (THM) in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

More information on the health effects of disinfection by-products (DBPs) is available from EPA's safe drinking water hotline by phone at 800-426-4791, or on the World Wide Web at <http://www.epa.gov/safewater/drinklink.html>.

Effective January 1, 2004 we were requested to control THM levels in our drinking water. We voluntarily began monitoring for THM several years ago. This allowed us to study changes to our disinfection process, allowing us to reduce THM levels further prior to January 2004. THM's are formed when organic matter, which is naturally present in water, combines with chlorine that is used to kill bacteria and viruses. Since organic matter is found in greater quantities in surface water than ground water, we have decided to use our surface water only when absolutely necessary, until we have perfected our new treatment system. In 2006, we used water from Lake Mexia starting July 21, including the months of August, September, and October.

To reduce THM levels has required extensive planning on the part of the District. The District has used alternate chemicals for disinfection. Trials were conducted in 2000 and 2002. The changes in the disinfection process led the District to purchase new chemical feed equipment and use a different form of chlorine. The planning and implementation did not happen overnight and the equipment required a significant outlay of capital and numerous operational changes.

A recent study has linked high THM levels to problems during pregnancy. Although this study is not definitive, you may want to consider boiling your drinking water then storing it in the refrigerator if you are pregnant. Keep in mind that fluid intake is **very** important during pregnancy. DO NOT reduce your fluid intake! For additional information, call the EPA Safe Drinking Water Hotline at 1-800-426-4791.

### Unregulated Contaminants

Constituent	Unit of Measure	Level Detected	Reason for Monitoring
Chloroform	PPB	27	By-product of drinking water chlorination.
Bromodichloromethane	PPB	17	
Dibromochloromethane	PPB	4.9	
Bromochloroacetic Acid	PPB	9.7	
Dibromoacetic Acid	PPB	1.3	
Dichloroacetic Acid	PPB	44.6	
Monobromacetic Acid	PPB	1.9	
Monochloroacetic Acid	PPB	4.1	

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.

#### Disinfectant Level

Month	Disinfectant	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Unit of Measure	Source of Chemical
January – July and November – December	Chlorine	1.31	0.1	3.72	4.0	<4.0	PPM	Disinfectant used to control microbes.
July 21 – November 6	Chloramine	2.32	.03	4.9	4.0	<4.0	PPM	

#### Total Organic Carbon

Contaminant	Average Level	Minimum Level	Maximum Level	Unit of Measure	Source of Contaminant
Source Water	10.13	8.32	11.8	PPM	Naturally present in the environment
Drinking Water	7.25	6.31	7.7	PPM	

Total organic carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfection byproducts. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. Byproducts of disinfection include trihalomethanes (THMs) and haloacetic acids (HAA) which are reported elsewhere in this report.