



## **2008 DRINKING WATER QUALITY REPORT**

### **903-935-4485**

The City of Marshall is providing you with the annual drinking water quality report to help you learn more about the quality of drinking water that comes out of your tap. Our drinking water is regulated by the Texas Commission on Environmental Quality (TCEQ) and they have determined that certain water quality issues exist which prevent our water from meeting all of the requirements as stated in the Federal Drinking Water Standards. Each issue is listed in this report as a violation and we are working closely with the TCEQ to achieve solutions.

### **WHERE DO WE GET OUR DRINKING WATER?**

The drinking water supply for the City of Marshall is obtained from Big Cypress Bayou. Water is pumped 10.5 miles, then it flows by gravity 4.5 miles to the Water Treatment Plant located at 605 East End Blvd. South (Highway 59). A Source Water Susceptibility Assessment for your drinking water source is currently being updated by the Texas Commission on Environmental Quality and will be provided to us this year. The report will describe 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 will allow us to focus our source water protection strategies. For more information on source water assessments and protection efforts at our system, please contact us.

### **OPPORTUNITIES FOR PUBLIC PARTICIPATION**

The public is always welcome to attend Commission Meetings scheduled on the second and fourth Thursday of each month at 6:30 p.m. at City Hall. For more information about these meetings, call 903-935-4421. For questions or concerns about water quality or the contents of this report, please call the Water Treatment Plant at 903-935-4485 during normal business hours (Monday—Friday, 8:00 a.m. to 5:00 p.m.).

**ESTE REPORTE INCLUYE INFORMACION IMPORTANTE SOBRE EL AGUA PARA TOMAR. PARA ASISTENCIA EN ESPANOL, FAVOR DE LLAMAR AL TELEFONO 903-935-4438**

### **SPECIAL INFORMATION FOR PEOPLE WITH WEAKENED IMMUNE SYSTEMS**

Some people may be more vulnerable to contaminants in the drinking water than the general population. Immuno-compromised persons such as persons with cancer who are undergoing chemotherapy, people who have had organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

**WATER SOURCES:** The sources of drinking water (both tap and bottled) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land and 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 human activity. Contaminants that may be present in the source water before treatment include: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants and organic chemical contaminants.

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

**WATER QUALITY DEFINITIONS**

**NTU** — Nephelometric Turbidity Units. This is the unit to measure water turbidity.

**MAXIMUM CONTAMINANT LEVEL GOAL (MCLG)** - The level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety.

**MAXIMUM CONTAMINANT LEVEL (MCL)** - The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**Maximum Residual Disinfectant Level (MRDL)** - The highest level of disinfectant allowed in the drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (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 contamination.

**TREATMENT TECHNIQUE** - A required process intended to reduce the level of a contaminant.

**ACTION LEVEL**—The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**Ppm** — Parts per million or milligrams per liter (mg/l).

**Ppb** — Parts per billion or micrograms per liter (ug/l).

**MFL**— Million fibers per liter (a measure of asbestos).

**pCi/L**—Pecuries per liter (a measure of radioactivity).

**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 use devices. 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 the water poses a health risk. More information about contaminants and potential health effects may be obtained by calling the EPA’s Safe Drinking Water Hotline (1-800-426-4791).

**LEAD & COPPER**

Year	Substance	The 90th Percentile	Number of Sites Exceeding Action Level	Action Level	Unit of Measurement	Source
2007	Lead	2.6	0	15	ppb	Corrosion of Household Plumbing
2007	Copper	0.082	0	1.3	ppm	See Above

“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 material 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 <http://www.epa.gov/safewater/lead>.”

**MAXIMUM RESIDUAL DISINFECTANT LEVEL**

Disinfectant Used	Average Level	Minimum Level	Maximum Level	MRDL	MRDL Goal	Unit of Measure	Source of Chemical
Chloramines 2008	1.77	.5	3.5	4.0	< 4.0	ppm	Disinfectant used to control microbes.

**TURBIDITY**

Turbidity has no health effects. However, turbidity 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.

2008 Turbidity	Highest Single measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limit	Source of Contaminant
	.60	100	.30	Soil Runoff

INORGANIC CONTAMINANTS					
Contaminant	Average	Minimum/Maximum	MCL	MCLG	Source of Contaminant
NITRATE 2008	0.26 ppm	0.26 ppm 0.26 ppm	10 ppm	10 ppm	Fertilizer run-off, erosion of natural deposits
FLUORIDE 2008	0.59 ppm	0.59 ppm 0.59 ppm	4 ppm	4 ppm	Water additive which promotes strong teeth.
DISINFECTION BYPRODUCTS					
TOTAL TRIHALOMETHANES 2008	74.3 ppb	28.5ppb 148.7 ppb	80 ppb		Disinfection by-product.
TOTAL HALOACETIC ACIDS 2008	45.7 ppb	6.9 ppb 101 ppb	60 ppb		Disinfection by-product.
UNREGULATED CONTAMINANTS-NO MAXIMUM CONTAMINANT LEVEL					
CHLOROFORM 2008	44.18 ppb	44.18 ppb 44.18 ppb	NOT REGULATED	NOT REGULATED	Disinfection by-product.
BROMODICHLOROMETHANE 2008	19.52 ppb	19.52 ppb 19.52 ppb	NOT REGULATED	NOT REGULATED	Disinfection by-product.
DIBROMOCHLOROMETHANE 2008	4.05 ppb	4.05 ppb 4.05 ppb	NOT REGULATED	NOT REGULATED	Disinfection by-product.
UNREGULATED INITIAL DISTRIBUTION SYSTEM EVALUATION FOR DISINFECTION BYPRODUCTS					
This evaluation is sampling required by the EPA to determine the range of total trihalomethane & haloacetic acid in the system for future regulations. The samples are not used for compliance, and may have been collected under non-standard conditions. EPA also requires the data to be reported here.					
TOTAL TRIHALOMETHANES 2008	72.3 ppb	26.2 ppb 136.9 ppb	NA	NA	Disinfection by-product.
TOTAL HALOACETIC ACIDS 2008	47.8 ppb	18.3 ppb 124.7 ppb	NA	NA	Disinfection by-product.
<b>CRYPTOSPORIDIUM 2008</b>	<b>NOT DETECTED</b>				

### TOTAL ORGANIC CARBON

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

2008 TOC	Average	Minimum	Maximum	Source of Contaminant
Source Water	8.0 ppm	6.07 ppm	11.4 ppm	Naturally present in the environment.
Drinking Water	4.0 ppm	2.97 ppm	5.52 ppm	

Removal Ratio -Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by the TCEQ to be removed. 2008 Average Ratio - 1.39

## TOTAL COLIFORM

Total Coliform bacteria are used as indicators of microbial contamination of drinking water because testing for them is easy. While not disease causing organisms themselves, they are often found in association with other microbes that are capable of causing disease. Coliform bacteria are more hardy than many disease-causing organisms; therefore, their absence from water is a good indication that the water is microbiologically safe for human consumption.

Contaminant	Highest Monthly Number of Positive Samples	MCL	Unit of Measure	Source of Contaminant
Total Coliform Bacteria	1	*	Presence	Naturally Present in the Environment

\* Two or more coliform found samples in any single month.

## VIOLATIONS

VIOLATION	HEALTH EFFECT	DURATION	EXPLANATION	STEPS TO CORRECT
MCL Violation Total Trihalomethane	Some people who drink water containing TTHM's in excess of the MCL over many years may experience problems with their liver, kidneys or central nervous systems and may have an increases risk of getting cancer.	7/1/2008 to 9/30/2008	Presence of naturally occurring organics.	Using chlorine dioxide to Reduce formation of TTHM's

**City of Marshall Water Utility Division  
P.O. Box 698—Marshall, Texas 75671**

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