



## **2006 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.

### **SOURCE 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 ASISTANCIA 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).

**SUBSTANCES EXPECTED IN DRINKING WATER**

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
2004	Lead	2.10	0	15	ppb	Corrosion of Household Plumbing
2004	Copper	0.11	0	1.3	ppb	See Above

**MAXIMUM RESIDUAL DISINFECTANT LEVEL**

Disinfectant Used	Average Level	Minimum Level	Maximum Level	MRDL	MRDL Goal	Unit of Measure	Source of Chemical
Chloramines 2006	1.66	.2	3.2	4.0	< 4.0	ppm	Disinfectant used to control microbes.

**TOTAL COLIFORM:** Reported monthly tests found no coliform bacteria.

**FECAL COLIFORM:** Reported monthly tests found no fecal coliform bacteria.

**SECONDARY & OTHER CONSTITUENTS NOT REGULATED ( No associated health effects.)**

Constituent	Average Level	Unit of Measure	Source
Aluminum	0.053	ppm	Abundant naturally occurring element.
Bicarbonate	12	ppm	Corrosion of carbonate rocks such as limestone.
Calcium	5.3	ppm	Abundant naturally occurring element.
Chloride	23	ppm	Naturally occurring, byproduct of oilfield activity.
Iron	.016	ppm	Erosion of natural deposits; iron or steel water delivery equipment.
Magnesium	2.4	ppm	Abundant naturally occurring element.
pH	6.8	units	Measure of corrosivity of water.
Sodium	11	ppm	Erosion of natural deposits, byproduct of oilfield activity.
Sulfate	28	ppm	Naturally occurring, common industrial byproduct, byproduct of oilfield activity.
Total Alkalinity	10	ppm	Naturally occurring soluble mineral salts.
Total Dissolved Solids	137	ppm	Total dissolved mineral contents in water.
Total Hardness	23	ppm	Naturally occurring calcium.

Substance	Average Level	Minimum Maximum	Maximum Contaminant Level (MCL)	Maximum Contaminant Level Goal (MCLG)	Source of Contaminant
<b>INORGANIC CONTAMINANTS</b>					
BARIUM 2002	0.041 ppm	0.041 ppm 0.041 ppm	2 ppm	2 ppm	Erosion of natural deposits.
NITRATE 2006	0.07 ppm	0.7 ppm 0.7 ppm	10 ppm	10 ppm	Fertilizer run-off, erosion of natural deposits
FLUORIDE 2006	0.5 ppm	0.5 ppm 0.5 ppm	4 ppm	4 ppm	Water additive which promotes strong teeth.
<b>ORGANIC CONTAMINANTS</b>					
TOTAL TRIHALOMETHANES 2006	77.1 ppb	17.2 ppb 135.8 ppb	80 ppb	0	Disinfection by-product.
TOTAL HALOACETIC ACIDS 2006	42 ppb	0 ppb 84 ppb	60 ppb	0	Disinfection by-product.
<b>UNREGULATED CONTAMINANTS</b>					
CHLOROFORM 2006	101 ppb	101 ppb 101 ppb	NOT REGULATED	NOT REGULATED	Disinfection by-product.
BROMODICHLOROMETHANE 2006	26 ppb	26 ppb 26 ppb	NOT REGULATED	NOT REGULATED	Disinfection by-product.
DIBROMOCHLOROMETHANE 2006	4.2 ppb	4.2 ppb 4.2 ppb	NOT REGULATED	NOT REGULATED	Disinfection by-product.

### 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.

2006 TOC	Average	Minimum	Maximum	Source of Contaminant
Source Water	13.5 ppm	6.55 ppm	50.9 ppm	Naturally present in the environment.
Drinking Water	4.06 ppm	2.28 ppm	7.29 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. 2006 Average Ratio - 1.15

### 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.

2006 Turbidity	Highest Single measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limit	Source of Contaminant
	.40	100	.30	Soil Runoff

## WATER CONSERVATION TIPS

### What Can I Do?

1. Water you lawn only when it needs it. Step on your grass, if it springs back when you lift your foot, it doesn't need water. Set your sprinklers for more days in between watering. **Saves 750-1500 gallons per month.**
2. Fix leaky faucets. **Saves 20 gallons per day for every leak fixed.**
3. Shorten your showers. Even a minute or two reduction can save up to **700 gallons per month.**
4. Don't water on windy days. Evaporation can waste up to **300 gallons** per watering.

### 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.	7/1/2006 to 9/30/2006	Presence of naturally occurring organics.	Water Plant Upgrade

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

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