

# 2008 Annual Drinking Water Quality Report

(Consumer Confidence Report)

## CITY OF REDWATER

Phone Number: 903-671-2775

### ***Special Notice for the ELDERLY, INFANTS, CANCER PATIENTS, people with HIV/AIDS or other immune problems:***

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone 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 about drinking water from their health care providers. The EPA/Centers for Disease Control and Prevention (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).

### **Public Participation Opportunities**

**Date:** July 6, 2009

**Time:** 6:00 PM

**Location:** Redwater City Hall  
120 Redwater Blvd W.

**Phone Number:** 903-671-2775

To learn about future public meetings (concerning your drinking water), or to request to schedule one, please call us.

### **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.

**WATER SOURCES:** 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.

#### ***En Español***

Este informe incluye información importante sobre el agua potable. Si tiene preguntas o comentarios sobre éste informe en español, favor de llamar al tel. 903) 671 - 2775 - para hablar con una persona bilingüe en español.

## Where do we get our drinking water?

Our drinking water is obtained from SURFACE AND GROUND water sources. It comes from Local wells and Lakes Wright Patman/ Millwood. A Source Water Susceptibility Assessment for your drinking water sources(s) 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.

### ***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 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 (1-800-426-4791).

### **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 concern. Therefore, secondaries are not required to be reported in this document but they may greatly affect the appearance and taste of your water.

## About The Following Pages

The pages that follow list all of the federally regulated or monitored contaminants which have been found in your drinking water. The U.S. EPA requires water systems to test for up to 97 contaminants.

### **DEFINITIONS**

#### **Maximum Contaminant Level (MCL)**

The highest permissible level of a contaminant in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

#### **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 Residual Disinfectant Level (MRDL)**

The highest level of disinfectant allowed in 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 (TT)**

A required process intended to reduce the level of a contaminant in drinking water.

#### **Action Level (AL)**

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

### **ABBREVIATIONS**

<b>NTU</b>	- Nephelometric Turbidity Units
<b>MFL</b>	- million fibers per liter (a measure of asbestos)
<b>pCi/L</b>	- picocuries per liter (a measure of radioactivity)
<b>ppm</b>	- parts per million, or milligrams per liter (mg/L)
<b>ppb</b>	- parts per billion, or micrograms per liter (µg/L)
<b>ppt</b>	- parts per trillion, or nanograms per liter
<b>ppq</b>	- parts per quadrillion, or picograms per liter

### Inorganic Contaminants

Year or Range	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Source of Contaminant
2008	Barium	0.048	0.048	0.048	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
2008	Chromium	1.7	1.7	1.7	100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits.
2008	Fluoride	0.19	0.15	0.26	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
2008	Nitrate	0.21	0	0.62	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
2005	Gross beta emitters	2.07	0	3.1	50	0	pCi/L	Decay of natural and man-made deposits.

### Organic Contaminants TESTING WAIVED, NOT REPORTED, OR NONE DETECTED

#### Maximum Residual Disinfectant Level

Systems must complete and submit disinfection data on the Disinfection Level Quarterly Operating Report (DLQOR). On the CCR report, the system must provide disinfectant type, minimum, maximum and average levels.

Year	Disinfectant	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Unit of Measure	Source of Chemical
2008	Chloramine	2.72	1.08	4.90	4.0	<4.0	ppm	Disinfectant used to control microbes.

### Disinfection Byproducts

Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	Unit of Measure	Source of Contaminant
2008	Total Haloacetic Acids	30.5	23.3	37.7	60	ppb	Byproduct of drinking water disinfection.
2008	Total Trihalomethanes	53.1	36.1	74	80	ppb	Byproduct of drinking water disinfection.

### Unregulated Initial Distribution System Evaluation for Disinfection Byproducts

This evaluation is sampling required by EPA to determine the range of total trihalomethane and 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.

Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	Unit of Measure	Source of Contaminant
2008	Total Haloacetic Acids	30.1	24.4	36.8	NA	ppb	Byproduct of drinking water disinfection.
2008	Total Trihalomethanes	50.1	34.9	68	NA	ppb	Byproduct of drinking water disinfection.

### Unregulated Contaminants

Bromoform, chloroform, dichlorobromomethane, and dibromochloromethane are disinfection byproducts. There is no maximum contaminant level for these chemicals at the entry point to distribution.

Year or Range	Contaminant	Average Level	Minimum Level	Maximum Level	Unit of Measure	Source of Contaminant
2008	Chloroform	50.42	50.42	50.42	ppb	Byproduct of drinking water disinfection.
2008	Bromodichloromethane	14.08	14.08	14.08	ppb	Byproduct of drinking water disinfection.
2008	Dibromochloromethane	3.5	3.5	3.5	ppb	Byproduct of drinking water disinfection.

**Lead and Copper**

Year	Contaminant	The 90th Percentile	Number of Sites Exceeding Action Level	Action Level	Unit of Measure	Source of Contaminant
2008	Lead	1.3	0	15	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
2008	Copper	0.257	0	1.3	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

**Recommended Additional Health Information for Lead**

All water systems are required by EPA to report the language below starting with the 2009 CCR to be delivered to you by July of 2010. We are providing this information now as a courtesy.

*"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 <http://www.epa.gov/safewater/lead>."*

**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.

Year	Contaminant	Highest Single Measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Unit of Measure	Source of Contaminant
2008	Turbidity	0.30	100.00	0.3	NTU	Soil runoff.

**Total Coliform** REPORTED MONTHLY TESTS FOUND NO COLIFORM BACTERIA.

**Fecal Coliform** REPORTED MONTHLY TESTS FOUND NO FECAL COLIFORM BACTERIA.

**VIOLATIONS**

Violation Type	Health Effects	Duration	Explanation	Steps to Correct
<b>DISTRIBUTION: MCL VIOLATION - TOTAL TRIHALOMETHANES (TTHM)</b>	Some people who drink water containing trihalomethanes 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.	1/1/2008 to 3/31/2008	The City of Redwater buys treated water from Texarkana Water Utilities. TWU has corrected the problem with system upgrades and improvements. TTHM levels were within the normal limits the 3 <sup>rd</sup> and 4 <sup>th</sup> quarters of 2008.	
<b>DISTRIBUTION: MCL VIOLATION - TOTAL TRIHALOMETHANES (TTHM)</b>	Some people who drink water containing trihalomethanes 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.	4/1/2008 to 6/30/2008	The City of Redwater buys treated water from Texarkana Water Utilities. TWU has corrected the problem with system upgrades and improvements. TTHM levels were within the normal limits the 3 <sup>rd</sup> and 4 <sup>th</sup> quarters of 2008.	

**Secondary and Other Constituents Not Regulated**  
(No associated adverse health effects)

Year or Range	Constituent	Average Level	Minimum Level	Maximum Level	Secondary Limit	Unit of Measure	Source of Constituent
2008	Aluminum	0.27	0.27	0.27	.05	ppm	Abundant naturally occurring element.
2008	Bicarbonate	119	76	204	NA	ppm	Corrosion of carbonate rocks such as limestone.
2008	Calcium	50.6	50.6	50.6	NA	ppm	Abundant naturally occurring element.
2008	Chloride	30	8	73	300	ppm	Abundant naturally occurring element; used in water purification; byproduct of oil field activity
2008	Hardness as Ca/Mg	97	9	141	NA	ppm	Naturally occurring calcium and magnesium.
2008	Magnesium	3.5	3.5	3.5	NA	ppm	Abundant naturally occurring element.
2008	Manganese	0.0016	0.0016	0.0016	.05	ppm	Abundant naturally occurring element.
2008	Nickel	0.002	0.002	0.002	NA	ppm	Erosion of natural deposits.
2008	pH	8.2	8.2	8.2	>7.0	units	Measure of corrosivity of water.
2008	Sodium	9	9	9	NA	ppm	Erosion of natural deposits; byproduct of oil field activity.
2008	Sulfate	45	0	67	300	ppm	Naturally occurring; common industrial byproduct; byproduct of oil field activity.
2008	Total Alkalinity as CaCO <sub>3</sub>	120	76	207	NA	ppm	Naturally occurring soluble mineral salts.
2008	Total Dissolved Solids	258	208	359	1000	ppm	Total dissolved mineral constituents in water.
2006	Total Hardness as CaCO <sub>3</sub>	170	170	170	NA	ppm	Naturally occurring calcium.

**Inorganic Contaminants**

Year	Contaminant	Location	Annual Average	Range of Detected Level	MCL	MCLG	Unit of Measure	Source of Contaminant
2008	Barium	Wright Patman	0.048	0.048 - 0.048	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
		Millwood	0.015	0.015 - 0.015				
2008	Nitrate (as Nitrogen)	Millwood	0.15	0.15 - 0.15	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
2008	Chromium	Wright Patman	0.002	0.002 - 0.002	0.1	0.1	ppm	Discharge from steel and pulp mills; erosion of natural deposits
2008	Fluoride	Wright Patman	0.15	0.15 - 0.15	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.

**Radioactive Contaminants**

Texarkana Water Utilities has received a 6-year waiver from the Texas Commission on Environmental Quality for radioactive contaminants monitoring. The next analysis is scheduled for 2011.

2005	Gross Beta	Wright Patman	4.6	4.6 - 4.6	50	0	pCi/L	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit a form of radiation known as beta radiation.
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**Disinfection By-Products**

Year	Contaminant	Location	Highest Running Annual Average	Range of Detected Level	MCL	MCLG	Unit of Measure	Source of Contaminant
2008	Total Trihalomethane (TTHM)	Redwater Water & Sewer	65.95	34.9 - 68.0	80	80	ppb	By-products of drinking water disinfection.
Health Effects of TTHMs: Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys or central nervous system, and may have an increased risk of getting cancer.								
2008	Haloacetic Acid (HAA)	Redwater Water & Sewer	27	23.3 - 37.7	60	60	ppb	By-products of drinking water disinfection.
Health Effects of HAAs: Some people who drink water containing haloacetic acids in excess of the MCL over many years may experience problems with their liver, kidneys or circulatory system.								
Year	Contaminant	Location	Highest Quarterly Average	Range of Detected Level	MCL	MCLG	Unit of Measure	Source of Contaminant
2008	Chlorite	Texas & Arkansas	157	0 - 347	1000	800	ppb	Disinfectant used to control microbes.

**Disinfectants**

Year	Contaminant	Location	Highest Monthly Average	Range of Detected Level	MRDL	MRDLG	Unit of Measure	Source of Contaminant
2008	Chlorine Dioxide	Wright Patman	0.04	0 - 0.19	0.8	0.8	ppm	Disinfectant used to control microbes.
Year	Contaminant	Location	Annual Average	Range of Detected Level	MRDL	MRDLG	Unit of Measure	Source of Contaminant
2008	Chlorine	Redwater Water & Sewer	1.82	.22 - 4.13	4	4	ppm	Disinfectant used to control microbes.

**Treatment Technique**

Total organic carbon (TOC) has no adverse health effects. Total organic carbon provides a medium for the formation of disinfection by-products when water is disinfected. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. By-products of disinfection include trihalomethanes (THMs) and haloacetic acids (HAAs) which are reported elsewhere in this report. The percentage of TOC removal was routinely monitored in 2008 with Wright Patman and Millwood water meeting all TOC removal requirements set by the USEPA.

Year	Contaminant	Location	Average Level	Range of Detected Level	Treatment Technique	MCLG	Unit of Measure	Source of Contaminant
2008	Total Organic Carbon	Wright Patman	Raw: 8.79 Treated: 4.30	Raw: 7.2 - 9.94 Treated: 3.43 - 5.46	NA	NA	ppm	Naturally present in the environment.
2008	Total Organic Carbon	Millwood	Raw: 5.71 Treated: 2.43	Raw: 3.95 - 11.3 Treated: 1.86 - 4.10	NA	NA	ppm	Naturally present in the environment.

**Microbiological Contaminants**

Turbidity is a measure of the cloudiness of the water. It is used to indicate water quality and filtration effectiveness (e.g., whether disease-causing organisms are present). Higher turbidity levels are often associated with higher levels of disease-causing microorganisms such as viruses, parasites and some bacteria. These organisms can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

Year	Contaminant	Location	Highest Single Measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Unit of Measure	Source of Contaminant
2008	Turbidity	Wright Patman	0.28	100%	0.3 (in 95% of samples)	NTU	Soil runoff.
		Millwood	0.16	100%			

**Unregulated Contaminants**

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

Year	Contaminant	Location	Level Detected	MCLG (Public Health Goal)	Unit of Measure	Regulation	Source of Contaminant
2008	Chloroform	Wright Patman	50.42	70	ppb	Not Regulated	By-products of drinking water disinfection
		Millwood	24.9				
2008	Bromodichloromethane	Wright Patman	14.08	0	ppb	Not Regulated	
		Millwood	3.77				
2008	Dibromochloromethane	Wright Patman	3.50	60	ppb	Not Regulated	