



## City of Terrell 2004 Report to Consumers on Water Quality

The City of Terrell is proud of the fine drinking water it provides. This annual water quality report shows the source of our water, lists the results of our tests, and contains much important information about water and health. City of Terrell will notify you immediately if there is any reason for concern about our water.

### SPECIAL INFORMATION FOR THE WEAKENED IMMUNE SYSTEM

You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly, or Immuno-compromised 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. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline (800-426-4791).

**The bottom line: Is the water safe to drink? Absolutely.**

Call us for information about the next opportunity for public participation in decisions about our drinking water.

### En Espanol

Este reporte incluye informacion importante sobre el agua para tomar. Para asistencia en espanol, favor de llamar al telefono (972) 551-6635.

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## Overview

### YOUR DRINKING WATER IS SAFE

Providing safe and reliable drinking water is the highest priority for the City of Terrell water department. Our employees take pride in providing and delivering water to your home or business.

The information in this report is based on tests conducted through 2004.

It is important to us that you have information about your Drinking Water so you can have confidence in the product we deliver.

### Water Source

TCEQ completed an assessment of your source water and results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for your water is based on this susceptibility and previous sample data. Any detections of these contaminants will be found in this Consumers Confidence report. For more information on source water assessments and protection efforts at our system contact the Water Treatment Plant, (972) 551-6635.

The report showed a HIGH susceptibility for the following contaminants: Inorganics, regulated and unregulated; Volatile Organic Contaminant, regulated and unregulated; Synthetic Organic Contaminant, regulated and unregulated; Disinfection By-Product, regulated; and Microbial Organism, unregulated.

### What Do The Tables Mean?

The tables show the results of our water-quality analyses. Every regulated contaminant that we detected in the water, even in the most minute traces, is listed here. The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health, the amount detected, the usual sources of such contamination, footnotes explaining our findings, and a key to units of measurement. Definitions of MCL and MCLG are important.

**Maximum Contaminant Level or MCL:** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible, using the best available treatment technology.

**Maximum Contaminant Level Goal or MCLG:** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Maximum Residual Disinfectant Level Goal or 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 contaminants.

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

**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 that a water system must follow.

### Key To Table

AL = Action Level

MCL = Maximum Contaminant Level

MCLG = Maximum Contaminant Level Goal

NTU = Nephelometric Turbidity Units

pCi/l = picocuries per liter (a measure of radioactivity)

ppm = parts per million, or milligrams per liter (mg/l)

ppt = parts per trillion, or nanograms per liter

ppb = parts per billion, or micrograms per liter (µg/l)

ppq = parts per quadrillion, or picograms per liter

TT = Treatment Technique

## Inorganic Contaminants

Contaminant	Date Tested	Unit	MCL	MCLG	Detected Level	Range	Possible Sources	Violation
Antimony	2/13/02	ppb	6	6	4.00	4.00	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder	NO
Arsenic	2/13/02	ppb	50	0	<2.00	<2.00	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes	NO
Cadmium	2/13/02	ppb	5	5	1.20	<1.20	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; Runoff from waste batteries and paints	NO
Barium	2/13/02	ppm	2	2	0.024	0.024	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	NO
Beryllium	2/13/02	ppb	4	4	<1.0	<1.0	Discharge from metal refineries and coal-burning factories; Discharge from electrical aerospace and defense industries	NO
Chromium	2/13/02	ppb	100	100	<10	<10	Discharge from steel and pulp mills; Erosion of natural deposits	NO
Selenium	2/13/02	ppb	50	50	4.4	4.4	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines	NO
Nitrate	2/13/02	ppm	10	10	0.36	0.36	Runoff from fertilizer use; Leaching from septic tanks, sewage	NO
Thallium	2/13/02	ppb	2	0.5	<1.0	<1.0	Leaching from ore-processing sites; Discharge from electronics glass and drug factories	NO

The maximum contaminant level (MCL) for arsenic will be reduced to 10 ppb in 2006.

These arsenic values are effective January 23, 2006 . Until then, the MCL is 0.05mg/l and there is no MCLG.

## Regulated at the Customer's Tap

Contaminant	90th Percentile Values	# of Sites Exceeding Action Level	Maximum Contaminant Level	Maximum Contaminant Level Goal	Possible Source of Substance
Lead (ppb)	2.8	0	Action Level=15	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	0.08	0	Action Level =1.3	1.3	

## Chlorine by-products

Contaminant	Range of Detections	Terrell Water	Maximum Contaminant Level	Maximum Contaminant Level Goal	Possible Source of Contaminant
Haloacetic Acids (HAA5)	6.30-55.00 ppb	24.77 ppb	60 ppb	n/a	Chlorine by-products
Total THMs	3.00-52.90 ppb	15.53 ppb	80 ppb	n/a	Chlorine by-products
Source Water Total Organic Carbon (TOC)	6.80-15.40	10.08	n/a	n/a	Naturally occurring
Treated Water Total Organic Carbon (TOC)	2.60-5.50	1.15	n/a	n/a	Naturally occurring

### Regulated in the Distribution System

Contaminant	Range of Detections	Terrell Water	Maximum Contaminant Level	Maximum Contaminant Level Goal	Possible Source of Contaminant
Total Coliforms	0	0	Presence in 5% of monthly samples	0	Human & Animal Fecal waste
Chloramines (ppm)	1 - 4	3.1	MRDL=4	MCLG=0	Disinfectant used to control microbes

### Regulated at the Treatment Plant

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

Constituent	Year	Highest Single Measurement	Lowest monthly % of samples Meeting Limits	Turbidity Limits	Unit of Measure	Source of Constituent
Turbidity	2004	1.25	100	0.3	NTU	Soil runoff

The Texas Commission on Environmental Quality (TCEQ) sets drinking water standards and has determined that the presence of microbiological contaminants is a health concern at certain levels of exposure. If water is inadequately treated, microbiological contaminants in that water may cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and any associated headaches and fatigue. These symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. The TCEQ has set enforceable requirements for treating drinking water to reduce the risk of these adverse health effects. Treatment such as filtering and disinfecting the water removes or destroys microbiological contaminants. Drinking water that is treated to meet the TCEQ requirements is associated with little to none of this risk and should be considered safe.

The City of Terrell failed to meet the minimum treatment technique requirements on February 12, 2004. Specifically, our water system allowed the turbidity of the filtered water to exceed 1.0 Nephelometric Turbidity Units.

The increased level of turbidity was due to rainfall changing the City Lake characteristics and requiring a large increase in water treatment chemicals to remove the proper amount of turbidity.

The City of Terrell has taken the following corrective actions to prevent a recurrence of the violations: Increased water monitoring and testing during and after a rainfall of 0.5 inches or more in 8 hours.

If you want more information about the nature and significance of this violation, you may contact Sonny Groessel at (972) 551-6635.

### Radioactive Contaminants

Contaminant	Date Tested	Unit	MCL	MCLG	Detected Level	Range	Possible Source	Violation
Gross Alpha	2/13/02	pCi/l	15	0	<2.0	<2.0	Erosion of natural deposits	NO

Radium 228	2/13/02	pCi/l	5	0	<1.0	<1.0	Erosion of natural deposits	NO
Gross Beta	2/13/02	pCi/l	50	0	<4.0	<4.0	Decay of natural and man-made deposit	NO

## Synthetic Organic Contaminants Including Pesticides and Herbicides

Contaminant	Date Tested	Unit	MCL	MCLG	Detected Level	Range	Possible Source	Violation
Di (2-ethylhexyl) phthalate	2004	ppb	6.0	0	<2.04	<2.04	Discharge from rubber and chemical factories	NO
Alachlor	2004	ppb	2.0	0	<0.20	<0.20	Runoff from herbicide used on row crops	NO
Atrazine	2004	ppb	3.0	3.0	<0.20	<0.20	Runoff from herbicide used on row crops	NO
Benzo (a) pyrene [PAH]	2004	ppt	200	0	<200	<200	Leaching from linings of water storage tanks and distribution lines	NO
Chlordane	2004	ppb	2.0	0	<0.20	<0.20	Residue of banned termiticide	NO
Dalapon	12/9/03	ppb	200	200	<10	<10	Runoff from herbicide used on rights of way	NO
Di (2-ethylhexyl) adipate	2004	ppb	400	400	<2.04	<2.04	Discharge from chemical factories	NO
Endrin	2004	ppb	2.0	2.0	<0.20	<0.20	Residue of banned insecticide	NO
Heptachlor	2004	ppt	400	0	<200	<200	Residue of banned termiticide	NO
Heptachlor epoxide	2004	ppt	200	0	<200	<200	Breakdown of heptachlor	NO
Hexachlorobenzene	2004	ppb	1.0	0	<0.20	<0.20	Discharge from metal refineries and agricultural chemical factories	NO
Hexachlorocyclopentadiene	2004	ppb	50	50	<1.02	<1.02	Discharge from chemical factories	NO
Methoxychlor	2004	ppb	40	40	<0.20	<0.20	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock	NO
Pentachlorophenol	2004	ppb	1.0	0	<1.02	<1.02	Discharge from wood preserving factories	NO
Lindane	2004	ppt	200	200	<0.200	<0.200	Runoff/leaching from insecticide used on cattle, lumber, gardens	NO
Simazine	2004	ppb	4.0	4.0	<0.20	0.20	Herbicide runoff	NO

The following are other substances that may be found in the drinking water. Many customers commonly have questions about these items.

Contaminant	Date Tested	Unit	MCL	MCLG	Detected Level	Range	Major Sources in Drinking Water	Violation
Fluoride	2004	ppm	4.0	4.0	0.74	0.22-1.01	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories	NO
Sodium	2/13/02	ppm	None	None	4.61	4.61	Found naturally in the water.	NO

## Unregulated Contaminants

The following are other substances that may be found in the drinking water. Many customers commonly have questions about these items.

Constituent	Date Tested	Unit	MCL	MCLG	Detected Level	Range	Major Sources in Drinking Water
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Chloroform	8/19/04	ppb	Not Regulated	3.3	3.3	Disinfection by-product
Bromodichloromethane	8/19/04	ppb	Not Regulated	1.0	1.0	Disinfection by-product

## Volatile Organic Contaminants

Contaminant	Date Tested	Unit	MCL	MCLG	Detected Level	Range	Possible Source	Violation
Benzene	8/19/04	ppb	5.0	0	<0.50	<0.50	Discharge from factories; Leaching from gas storage tanks and landfills	NO
Carbon Tetrachloride	8/19/04	ppb	5.0	0	<0.50	<0.50	Discharge from chemical plants and other industrial activities	NO
Chlorobenzene	8/19/04	ppb	100	100	<0.50	<0.50	Discharge from chemical and agricultural chemical factories	NO
1,1-Dichloroethylene	8/19/04	ppb	7.0	7.0	<0.50	<0.50	Discharge from industrial chemical factories	NO
cis-1,2-Dichloroethylene	8/19/04	ppb	70	70	<0.50	<0.50	Discharge from industrial chemical factories	NO
1,2-Dichloropropane	8/19/04	ppb	5.0	0	<0.50	<0.50	Discharge from industrial chemical factories	NO
Ethylbenzene	8/19/04	ppb	700	700	<0.50	<0.50	Discharge from petroleum refineries	NO
Styrene	8/19/04	ppb	100	100	<0.50	<0.50	Discharge from rubber and plastic factories; Leaching from landfills	NO
1,2,4-Trichlorobenzene	8/19/04	ppb	70	70	<0.50	<0.50	Discharge from textile-finishing factories	NO
1,1,2-Trichloroethane	8/19/04	ppb	5.0	3.0	<0.50	<0.50	Discharge from industrial chemical factories	NO
Toluene	8/19/04	ppm	1	1	<0.0005	<0.0005	Discharge from petroleum factories	NO
Vinyl Chloride	8/19/04	ppb	2.0	0	<0.50	<0.50	Leaching from PVC piping; Discharge from plastics factories	NO
m&p-Xylenes	8/19/04	ppm	10	10	<0.001	<0.001	Discharge from petroleum factories; Discharge from chemical factories	NO
1,2-Dichloroethane	8/19/04	ppb	5.0	0	<0.50	<0.50	Discharge from industrial chemical factories	NO

### Unregulated Contaminant Monitoring Regulation (UCMR)

Availability of Unregulated Contaminant Monitoring Rule data (UCMR)

We participated in gathering data under the UCMR in order to assist EPA in determining the occurrence of possible drinking water contaminants. If any unregulated contaminants were detected, they are shown in the table elsewhere in this report. This data may also be found on EPA's web site at <http://www.epa.gov/safewater/data/ncod.html>, or you can call the Safe Drinking Water Hotline at 1-800-426-4791.

### Required Additional Health Information

To ensure that tap water is safe to drink, EPA prescribes limits on the amount of certain contaminants in water provided by public water systems.

FDA regulations establish limits for contaminants in bottled water.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of Contaminant does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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 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 include:

(A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

(C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, storm water runoff, and residential uses.

(D) Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.

(E) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

### **National Primary Drinking Water Regulation Compliance**

Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste, odor, or color of drinking water, please contact the system's business office.

For more information, call the City of Terrell Water Treatment Plant at 972-551-6635

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