

2008 Annual Drinking Water Quality Report

(Consumer Confidence Report)

CITY OF KELLER

Phone No: 817-743-4080

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 Information

2008 Public meeting, None scheduled.
To learn more about your drinking water, please call us at **817-734-4080**

Where do we get our drinking water?

Our drinking water is obtained from SURFACE water sources. It comes from the following Lake/River/Reservoir/Aquifer: FT WORTH. A Source Water Susceptibility Assessment for your drinking water source (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 and/or the system(s) from which we receive water to focus on source water protection strategies. For more information on source water assessments and protection efforts at our system, please contact us.

Fort Worth uses surface water from six lakes – Lake Bridgeport, Eagle Mountain Lake, Lake Worth, Benbrook Lake, Cedar Creek Lake and Richland-Chambers Reservoir.

Fort Worth owns Lake Worth. The U.S. Army Corps of Engineers is responsible for Benbrook Lake. The other four lakes are owned and operated by Tarrant Regional Water District (TRWD).

Fort Worth monitors water quality in Lake Worth and participates with TRWD to ensure the other lakes are regularly tested.

Our Drinking Water Meets or Exceeds All Federal (EPA) Drinking Water Requirements

This report is a summary of the quality of the water we provide our customers. The analysis was made by using the data from the most recent U.S. Environmental Protection Agency (EPA) required tests and is presented in the attached pages. We hope this information helps you become more knowledgeable about what's in your drinking water.

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 includes: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants, and organic chemical contaminants.

En Español

Este informe incluye informacion importante sobre el agua potable. Si tiene preguntas o comentarios sobre este informe en español, favor de llamar al tel. (817) 743-4083 para hablar con una persona bilingue en español.

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.

Abbreviations

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

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.

N/A

Not Applicable

Inorganic Contaminants

Contaminant	Unit of Measure	MCL	2008 Level	Range of Detects	MCLG	Common Source of Substance in Drinking Water
Barium (1)	ppm	2	0.058	0.033 to 0.058	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Beta particles & Photon emitters (2)	pCi/l	50	6.6	4.6 to 6.6	N/A	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation.
Fluoride	ppm	4	0.66	0.52 to 0.65	4	Water additive, which promotes strong teeth: Erosion of natural deposits; discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen)	ppm	10	0.28	0.11 to 0.28	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Nitrite (measured as Nitrogen)	ppm	1	0.038	0 to 0.038	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Bromate	ppb	10	4.8	0.6 to 4.8	0	By-product of drinking water disinfection
Haloacetic Acids	ppb	60	30.1	12.7 to 30.1	N/A	By-product of drinking water disinfection
Total Trihalomethanes	ppb	80	52.2	23.6 to 52.2	N/A	By-product of drinking water disinfection
Total Coliforms (including fecal Coliforms & E.coli)	% of positive samples	Presence in 5% of monthly samples	Presence in .8% of monthly samples	0 to .8	0	Coliforms are naturally present in the environment as well as feces; fecal Coliforms and E. coli only come from human and animal fecal waste.

Contaminant	Measure	MRDL	2008 Level	Range of Defects	MRDLG	Common Source of Substance in Drinking Water
Chloramines	ppm	4	3.4	1.4 to 4.3	4	Water additive used to control microbes
Contaminant	Measure	90 th percentile (5)	# of sites exceeding action level	MCL	MRLG	Common Source of Substance in Drinking Water
Lead (4)	ppb	2.4	0	Action level =15	N/A	Corrosion of household plumbing systems; erosion of natural deposits
Copper (4)	ppm	0.457	0	Action level =1.3	N/A	
Contaminant	High	Low	Average	MCL	MCLG	Common Source of Substance in Drinking Water
Total Organic Carbon (6)	1	1	1	TT = % removal	N/A	Naturally occurring

- (1) The test results shown above are from 2002. Because Fort Worth historically has had low levels of metals in its water, the Texas Commission on Environmental Quality (TCEQ) has Fort Worth on a reduced monitoring schedule. The next testing is scheduled for 2009.
- (2) The test results shown above are from 2005. Because Fort Worth historically has had low levels of radionuclides in its water, TCEQ has Fort Worth on a reduced monitoring schedule. The next testing is scheduled for 2009.
- (3) Turbidity is a measure of the cloudiness of water. It is monitored because it is a good indicator of the effectiveness of the filtration system.
- (4) The test results shown above are from 2005. Because Fort Worth historically has had low levels of lead and copper in its water, TCEQ has Fort Worth on a reduced monitoring schedule. The next testing is scheduled for 2009.
- (5) 90th percentile value: 90% of the samples were at or below this value. EPA considers the 90th percentile value the same as an "average" value for other contaminants. Lead and copper are regulated by a treatment technique that requires systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water systems must take additional steps.
- (6) Total Organic Carbon is used to determine disinfection by-product precursors. Fort Worth was in compliance with all monitoring and treatment technique requirements for disinfection by-product precursors.

Unregulated Contaminants (7)

Contaminant	High	Range of Detections	2008 Level	MCL	MCLG	Common Source of Substance in Drinking Water
Chloral Hydrate	ppb	0 to 1.9	1.9	Not regulated	0	By-product of drinking water disinfection
Bromoform	ppb	1 to 1.5	0.7	Not regulated	0	By-product of drinking water disinfection; not regulated individually; included in Total Trihalomethanes
Bromodichloromethane	ppb	3.0 to 17.3	17.3	Not regulated	0	
Chloroform	ppb	2.2 to 18.4	18.4	Not regulated	0	
Dibromochloromethane	ppb	2.0 to 9.5	9.5	Not regulated	60	
Dichloroacetic Acid	ppb	2.9 to 13.4	13.4	Not regulated	0	By-product of drinking water disinfection; not regulated individually; included in Haloacetic Acids
Trichloroacetic Acid	ppb	0.0 to 9.7	9.7	Not regulated	300	

- (7) Unregulated contaminants are those for which EPA has not established drinking water standards. The Purpose of unregulated contaminants monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Additional Parameters

Constituent	Minimum Level	Maximum Level	Unit of Measure
Bicarbonate	94	144	ppm
Calcium	74	159	ppm
Chloride	16	26	ppm
Conductivity	324	480	umhos/m
pH	8.3	8.4	units
Magnesium	3	10	ppm
Sodium	11	27	ppm
Sulfate	22	42	ppm
Total Alkalinity as CaCO ₃	94	144	ppm
Total Dissolved Solids	185	264	ppm
Total Hardness as CaCO ₃	120	185	ppm
Total Hardness in Grains	7	11	Grains/gallon

This chart lists other items for which the water is tested. These items do not relate to public health but rather to the aesthetic effects. These items are often important to industrial users.

Lead and Copper

Year	Contaminant	Measure	The 90 th Percentil	# of Sites Exceeding Action	MCL	MCLG	Common Sources of Substance
2008	Lead	ppb	2.4	0	Action Level = 15	N/A	Corrosion of household plumbing systems; erosion of natural
2008	Copper	ppb	0.59	0	Action level = 1.3	N/A	Corrosion of household plumbing systems; erosion of natural

Initial Distribution System Evaluation

This evaluation is a one-time study conducted by water systems to identify distribution system locations with high concentrations of the total trihalomethanes and haloacetic acids. EPA will use these results for future regulations. EPA requires the data be included in this report. The samples are not used for compliance. The table on page 2 includes the compliance sampling data for these two contaminants.

Contaminant	Measure	Average	Minimum Level	Maximum Level
Haloacetic Acids	ppb	6.69	0	42.7
Total Trihalomethanes	ppb	19.3	3.4	80

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 (3)	0.23	100.00	0.3	NTU	Soil runoff

Reduced Monitoring

The Texas Commission on Environmental Quality has Fort Worth on reduced monitoring for some contaminants. This is because these contaminants historically have been detected at very low amounts or not at all.

- Radiologicals Every three years
- Lead / Copper Every three years
- Metals Every three years
- Asbestos Every three years

Total Coliforms

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.

Year	Contaminant	Highest Monthly % of Positive Samples	MCL	Unit of Measure	Source of Contaminant
2008	Total Coliform Bacteria	5	*	Presence	Naturally Present in the Environment

* Presence of coliform bacteria in 5% or more of the monthly samples.
Fecal Coliform: REPORTED MONTHLY TESTS FOUND NO FECAL COLIFORM BACTERIA

Maximum Residual Disinfectant Level

Year	Disinfectant	Average Level	Minimum Level	Maximum Level	Maximum Level	MRDL	MRDLG	Unit of Measure	Source of Contaminant
2008	Chloramine Residual	1.88	1.2	3.3	Presence	4	4	4	Naturally Present in the Environment

Cryptosporidium, Giardia & Virus Results Provided

Tarrant Regional Water District monitors the raw water from all our lakes for Cryptosporidium, Giardia lamblia and viruses. The 2008 testing revealed low levels of Cryptosporidium, Giardia lamblia, and viruses. These are microscopic organisms common in surface water. Required levels of inactivation are achieved through disinfection and filtration.

The source is human and animal fecal waste. When ingested, Cryptosporidium and Giardia lamblia can cause diarrhea, cramps and fever. No specific drug therapy has proven effective, but people with healthy immune systems usually recover within two weeks. Individuals with weak immune systems, however, may be unable to clear the parasite and suffer chronic and debilitating illness.

Availability of Unregulated Contaminant Monitoring Rule Data (UCMR)

The City of Fort Worth participated in gathering data under the UCMR. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. If any unregulated contaminants were detected, they are shown in the tables elsewhere in this report. This data may also be found on EPA's website at <http://www.epa.gov/safewater/data/ncod.html>, or you can call the Safe Drinking Water Hotline at 1-800-426-4791.

State Agency Assessed Source Waters

The Texas Commission on Environmental Quality (TCEQ) conducted an assessment of Fort Worth's water supply lakes in 2003.

The Fort Worth water system is susceptible to some contaminants, using criteria developed by TCEQ in its federally approved source water assessment program.

The assessment report consists of maps showing the assessment area, an inventory of known land use activities of concern and documentation of specific contaminants of concern. This report is available for review at the Fort Worth Water Department office, 1000 Throckmorton St.

Health Information for Special Populations

You may be more vulnerable than the general population to certain microbial contaminants, such as Cryptosporidium, in drinking water. Infants, some elderly or immune-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 Environmental Protection Agency's Safe Drinking Water Hotline at 800-426-4791

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>."