

2013 Annual Drinking Water Quality Report

(Consumer Confidence Report)

CITY OF KELLER
Public Water Supply # 2200096
Phone No: 817-743-4080

Special Notice **Required Language For All Community Public Water Supplies.**

You may be more vulnerable than the general population to certain microbial contaminants, such as Cryptosporidium, in drinking water. Infants, some elderly, or immunocompromised 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 at **(800) 426-4791**.

Public Information **Public Participation Opportunities.**

There are no Public Participation Opportunities scheduled this year. To learn about future public meetings or to request or schedule one, please call us at **(817) 743-4080**.

Where Do We Get Our Drinking Water?

Our drinking water is obtained from SURFACE water sources.

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.

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 at **(800) 426-4791**

En Español

Este reporte incluye informacion importante sobre el agua para tomar. Para asistencia en español, por favor de llamar al telefono **(817) 743-4200**.

Our Drinking Water is Regulated and 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.

Sources of Drinking Water

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 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 water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; (c) pesticides and herbicides, which might have a variety of sources such as agriculture, urban storm water runoff, and residential uses. (d) organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and (e) radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities

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.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

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, secondary's 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
- 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)

Definitions

Action Level (AL)

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

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 microb 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.

Minimum Report Level (MRL)

The lowest concentration of a contaminant that can be measured by a laboratory.

Treatment Technique (TT)

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

N/A

Not Applicable

Inorganic Contaminants

Contaminant	Unit of Measure	MCL	2013 Level	Range of Detects	MCLG	Common Source of Substance in Drinking Water
Arsenic	ppb	10	4.48	1.33 to 4.48	0	Erosion of natural deposits; runoff from orchards; runoff from glass and electronic production wastes
Barium	ppm	2	0.06	0.05 to 0.06	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Alpha Particles	pCi/l	15	2.8	0.0 to 2.8	N/A	Erosion of natural deposits
Gross Beta emitters	pCi/l	50	7.5	0 to 7.5	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	0.65	0.23 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	0.78	0.46 to 0.78	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (measured as Nitrogen)	ppm	1	0.03	0.01 to 0.03	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Bromate	ppb	10	0.08	0.0 to 0.08	0	By-product of drinking water disinfection
Radium 228	pCi/l	5	1.1	0.0 to 1.1	0	Erosion of natural deposits
Chromium (Total)	ppb	100	2.12	1.28 to 2.12	100	Discharge from steel and pulp mills, erosion of natural deposits
Selenium	ppb	50	3.98	2.92 to 3.98	50	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Atrazine	ppb	3	0.087	0.04 to 0.22	3	Runoff from herbicide used on row crops

Contaminant	Measure	MRDL	2013 Level	Range of Detects	MRDLG	Common Source of Substance in Drinking Water
Chloramines	ppm	4	2.83	2.81 to 2.87	4	Water additive used to control microbes

Contaminant	High	Low	Average	MCL	MCLG	Common Source of Substance in Drinking Water
Total Organic Carbon (1)	1	1	1	TT = % removal	N/A	Naturally occurring

(1) 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.

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2013	8.7	2.8 – 8.7	N/A	60	ppb	N	By-product of drinking water disinfection
Total Trihalomethanes (TTHm)	2013	7.24	3.3 – 7.24	N/A	80	ppb	N	By-product of drinking water disinfection

Unregulated Contaminants

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Any unregulated contaminants detected are reported in the following table. For additional information and data visit <http://water.epa.gov/drink/index.cfm>, or call the Safe Drinking Water Hotline at (800) 426-4791.

Contaminant	Measure	Range of Detections	2013 Level	MCL	MCLG	Common Source of Substance in Drinking Water
Chloral Hydrate	ppb	0.3 to 0.68	0.68	Not regulated	None	By-product of drinking water disinfection
Bromoform	ppb	0 to 2.8	2.8	Not regulated	None	By-products of drinking water disinfection; not regulated individually; included in Total Trihalomethanes
Bromodichloromethane	ppb	1.4 to 9.6	9.6	Not regulated	None	
Chloroform	ppb	2 to 14.2	14.2	Not regulated	70	
Dibromochloromethane	ppb	0.0 to 6.9	6.9	Not regulated	60	
Monochloroacetic Acid	ppb	0 to 3.8	3.8	Not regulated	70	By-products of drinking water disinfection; not regulated individually; included in Haloacetic Acids
Dichloroacetic Acid	ppb	3.5 to 7.3	8.1	Not regulated	None	
Trichloroacetic Acid	ppb	0 to 1.6	7.4	Not regulated	20	
Monobromoacetic Acid	ppb	1.5 to 2.7	9.4	Not regulated	None	
Dibromoacetic Acid	ppb	0 to 1.8	1.3	Not regulated	None	

Source Water Assessments

Additional Parameters

Constituent	Minimum Level	Maximum Level	Unit of Measure
Bicarbonate	88	114	ppm
Calcium	31	42	ppm
Chloride	10	26	ppm
Conductivity	264	360	umhos/cm
pH	7.7	8.3	units
Magnesium	3	6	ppm
Sodium	17	27	ppm
Sulfate	22	36	ppm
Total Alkalinity as CaCO ₃	88	114	ppm
Total Dissolved Solids	150	244	ppm
Total Hardness as CaCO ₃	92	122	ppm
Total Hardness in Grains	5	7	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.

The source of drinking water used by City of Keller is purchased surface water. A Source Water Susceptibility Assessment for your drinking water sources(s) is currently being updated by the Texas Commission on Environmental Quality. This information describes 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 allows us to focus source water protection strategies. Some of this source water assessment information is available on Texas Drinking Water Watch at <http://dww.tceq.state.tx.us/DWW/>. For more information on source water assessments and protection efforts at our system, please contact us at **(817) 743-4080**.

Mandatory Language for Lead / Copper

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. The City of Keller 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 two 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>.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90 th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contaminant
Copper	2013	1.3	1.3	0	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead	2013	0	0.015	0	0	ppm	N	Corrosion of household plumbing systems; Erosion of natural deposits

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.

Contaminant	Unit of Measure	MCL	2013 Level	Range of Detects	MCLG	Common Source of Substance in Drinking Water
Turbidity (1)	NTU	TT	0.38 Highest single result 99.4% Lowest monthly % of samples ≤ 0.3 NTU	N/A	N/A	Soil runoff

(1) 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.

Cryptosporidium Testing

TRWD monitors the raw water at all intake sites for Cryptosporidium, Giardia Lambia and viruses. The source is human and animal fecal waste in the watershed. No viruses were detected. Cryptosporidium and Giardia Lambia, microbial parasites common in surface water, were detected at very low levels in 2013. The Cryptosporidium testing methods cannot determine if the parasite is dead and inactive or alive and capable of causing cryptosporidiosis. This is an abdominal infection that causes nausea, diarrhea and abdominal cramps after indigestion. The drinking water treatment process is designed to remove Cryptosporidium and Giardia Lambia through filtration.

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 hardier than many disease-causing organisms; therefore, their absence from water is a good indication that the water is microbiologically safe for human consumption.

Contaminant	Measure	MCL	2013 Level	Range	MCLG	Likely Source of Contaminant
Total Coliforms (including Fecal Coliform and E.Coli)	% positive samples	Presence in 5% or less of monthly samples	0 present in monthly samples	0	0	Naturally present in the environment as well as feces

UCMR 3

Unregulated Contaminant Monitoring Rule benefits the environment and public health by providing EPA and other interested parties with scientifically valid data on the occurrence of these contaminants in drinking water. Health information is necessary to know whether these contaminants pose a health risk. Public water systems will sample for these contaminants for four consecutive quarters from 2013 to 2015. This sampling occurred from June 2013 through March 2014. The results shown below are for the first three quarters of sampling. The final quarter's results will appear in next year's annual water quality report. None of the contaminants in the UCMR 1 and UCMR 2 testing were detected.

Contaminant	Measure	Range of Detects	2013 Level	MRL	Common Source of Substance in Drinking Water
Bromochloromethane	ppb	0 to 0.25	0.25	0.06	Used as a fire-extinguishing fluid, an explosive suppressant, and as solvent in the manufacturing of pesticides
Vanadium	ppb	0.56 to 1.6	1.6	0.2	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst
Molybdenum	ppb	1.6 to 2.5	2.5	1	Naturally-occurring element found in ores and present in plants, animals and bacterial; commonly used form molybdenum trioxide used as a chemical reagent
Strontium	ppb	260 to 330	330	0.3	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate class of cathode-ray tube televisions to block x-ray emissions
Chromium	ppb	0 to 0.4	0.4	0.2	Naturally-occurring element; used in making steel and other alloys; chromium-3 or-6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood preservation
Chromium-6	ppb	0 to 0.14	0.14	0.03	
Chlorate	ppb	0 to 720	720	20	Agricultural defoliant or desiccant; disinfection by-product; and used in production of chlorine dioxide

UCMR 3 contaminants not detected

Chemicals

1,2,3-trichloropropane
1,3-butadiene
chloromethane (methyl chloride)
1,1-dichloroethane
bromomethane
chlorodifluoromethane (HCFC-22)
1,4-dioxane
cobalt
perfluorooctanesulfonic acid (PFOS)
perfluorooctanoic acid (PFOA)
perfluorononanoic acid (PFNA)
perfluorohexanesulfonic acid (PFHxS)
perfluoroheptanoic acid (PFHpA)
perfluorobutanesulfonic acid (PFBS)

Hormones

17- β -estradiol
17- α -ethynylestradiol
estriol
equilin
estrone
testosterone
4-androstene-3,17-dione