

2014 Annual Drinking

Water Quality Report

(Consumer Confidence Report)

CITY OF KELLER

Public Water System # 2200096

Phone No: 817-743-4080

Special Notice

Required Language For All Community Public Water Systems

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?

The City of Keller gets all of its water from the City of Fort Worth. Fort Worth uses surface water from Lake Worth, Eagle Mountain Lake, Lake Bridgeport, Richland Chambers Reservoir, Cedar Creek Reservoir, Lake Benbrook and the Clear Fork Trinity River. 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. Secondary constituents are not causes for health concern, but may greatly affect the appearance and taste of your water. These items are often important to industry.

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 (a measure of water turbidity or clarity)
- 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)
- umhos/cm** - micromhos per centimeter

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.

List of Contaminants

Contaminant	Unit of Measure	MCL	2014 Level	Range of Detects	MCLG	Common Source of Substance in Drinking Water
Antimony	ppb	6	0.22	0 to 0.22	6	Discharge from petroleum refineries, fire retardants, ceramics, electronics, solder, test addition
Arsenic	ppb	10	1.28	0.97 to 1.28	0	Erosion of natural deposits; runoff from orchards; runoff from glass and electronic production wastes
Barium	ppm	2	0.07	0.05 to 0.07	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Gross Beta emitters	pCi/L	50	5.6	4 to 5.6	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	0.62	0.27 to 0.62	4	Water additive, which promotes strong teeth; Erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (measured as Nitrogen)	ppm	10	0.82	0.28 to 0.82	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (measured as Nitrogen)	ppm	1	0.03	0 to 0.03	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Bromate	ppb	10	8.92	0 to 8.92	0	Byproduct of drinking water disinfection
Radium 228	pCi/L	5	1	1 to 1	0	Erosion of natural deposits
Chromium (Total)	ppb	100	0.55	0.00 to 0.55	100	Discharge from steel and pulp mills, erosion of natural deposits
Cyanide	ppb	200	113	0 to 113	200	Discharge from plastic and fertilizer factories; discharge from steel and metal factories
Atrazine	ppb	3	0.09	0 to 0.10	3	Runoff from herbicide used on row crops

Contaminant	Measure	MRDL	2014 Highest Level	Range of Detects	MRDLG	Common Source of Substance in Drinking Water
Chloramines	ppm	4	2.68	2.47 to 2.68	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 byproduct precursors.						

Disinfectants and Disinfection By	Collection Date	2014 Highest Level	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2014	10.3	3.2 – 10.3	N/A	60	ppb	N	Byproduct of drinking water disinfection
Total Trihalomethanes (TThm)	2014	6.00	4.2 – 6.00	N/A	80	ppb	N	Byproduct of drinking water disinfection

Unregulated Disinfection Byproducts

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 Detects	2014 Level	MCL	MCLG	Common Source of Substance in Drinking Water
Chloral Hydrate	ppb	0.26 to 0.49	0.49	Not regulated	None	Byproduct of drinking water disinfection
Bromoform	ppb	1 to 3.6	3.6	Not regulated	None	Byproducts of drinking water disinfection; not regulated individually; included in Total Trihalomethanes
Bromodichloromethane	ppb	2.6 to 7.6	7.6	Not regulated	None	
Chloroform	ppb	2.8 to 9	9	Not regulated	70	
Dibromochloromethane	ppb	2.2 to 6.8	6.8	Not regulated	60	
Monochloroacetic Acid	ppb	0 to 3.5	3.5	Not regulated	70	
Dichloroacetic Acid	ppb	3 to 5.7	5.7	Not regulated	None	Byproducts of drinking water disinfection; not regulated individually; included in Haloacetic Acids
Trichloroacetic Acid	ppb	0 to 1.8	1.8	Not regulated	20	
Monobromoacetic Acid	ppb	1 to 2	2	Not regulated	None	
Dibromoacetic Acid	ppb	0 to 3.3	3.3	Not regulated	None	

Secondary Constituents Additional Parameters

Constituent	2014 Minimum Level	2014 Maximum Level	Unit of Measure
Bicarbonate	81.8	126	ppm
Calcium	31.3	47.9	ppm
Chloride	19.9	27.1	ppm
Conductivity	306	433	umhos/cm
pH	7.9	8.1	units
Magnesium	4	6.9	ppm
Sodium	18	28.1	ppm
Sulfate	23.5	36.4	ppm
Total Alkalinity as CaCO ₃	81.8	126	ppm
Total Dissolved Solids	171	267	ppm
Total Hardness as CaCO ₃	104	125	ppm
Total Hardness in Grains	6	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 the City of Keller is purchased surface water from the City of Fort Worth. The Texas Commission on Environmental Quality completed an assessment of Fort Worth's source waters. The information contained in the assessment allows us to focus on source water protection strategies. Results indicate that some of the sources are susceptible to certain contaminants based on human activities and natural conditions. The sampling requirements for the water system are based on this susceptibility and previous sample data. Any detection of these contaminants may be found in this report. For more information on source water assessments and protection efforts at our system, please contact us at (817) 743-4080. For more information about our sources of water, please refer to the Source Water Assessment Viewer available at <https://www.tceq.texas.gov/gis/swaview>. Further details about sources and source-water assessments are available in Texas Drinking Water Watch at <http://dww.tceq.state.tx.us/DWW/>.

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 at 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	0.63	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

Historically, Keller has had low lead and copper levels in its water, thus the TCEQ requires this monitoring to occur only every three years. The test results shown above are from 2013. The next monitoring will occur in 2016.

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.

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	2014 Level	MCLG	Common Source of Substance in Drinking Water
Turbidity (1)	NTU	TT	0.29 Highest single result 100% Lowest monthly % of samples ≤ 0.3 NTU	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

Tarrant Regional Water District (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. Viruses, Cryptosporidium and Giardia Lambia, microbial parasites common in surface water, were not detected in any of the 2014 sampling.

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	2014 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; fecal coliforms and E. Coli only come from human and animal fecal waste

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 final quarter of sampling. The first three quarter's results appeared in last year's annual water quality report. None of the contaminants in the UCMR 1 and UCMR 2 testing were detected. The UCMR 3 includes assessment for 21 chemical contaminants, 7 hormones, and 2 viruses.

UCMR 3

Contaminant	Measure	Range of Detects	2014 Level	MRL	Common Source of Substance in Drinking Water
Vanadium	ppb	0.62 to 0.86	0.86	0.2	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst
Molybdenum	ppb	1.4 to 2.1	2.1	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 290	290	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 (1)	ppb	Not detected	Not detected	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 0.068	0.068	0.03	
Chlorate	ppb	0 to 170	170	20	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide

(1) Total Chromium, the sum of chromium in all its valence states, is already regulated in drinking water. As part of UCMR 3, EPA requires testing for Total Chromium in the same samples used to test for Chromium 6, which is on the UCMR 3 list. The value differs from what is listed in the order table because of different sampling periods. The MCL for EPA's current total chromium regulation was determined based upon the health effects of Chromium 6.

UCMR 3 contaminants not detected

Chemicals

1,2,3-trichloropropane
 1,3-butadiene
 chloromethane (methyl chloride)
 1,1-dichloroethane
 bromomethane
 chlorodifluoromethane (HCFC-22)
 Bromochloromethane (Halon 1011)
 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

2014 Water Loss Audit

The City of Keller's Water Conservation Plan addresses several measures in reducing water loss and improving the efficiency in the use of water. In the water loss audit submitted to the Texas Water Development Board for the time period of Jan-Dec 2014, the system lost an estimated 128,527,742 gallons of water from the 2,953,378,700 gallons of water purchased. Leaks, line breaks, unmetered fire protection, hydrant flushing for health and safety purposes, unauthorized consumption, data discrepancies, and other factors all contribute to water loss. The City will continue to audit its water supply and implement water conservation controls to minimize system losses.



TWICE PER WEEK WATERING ALWAYS IN EFFECT

Even though Stage 1 drought measures ended on May 18 due to recent rains, outdoor watering requirements for Keller water customers do not change. The same watering schedule remains in effect. In June 2014, the Keller City Council adopted maximum twice per week watering as a year-round water conservation measure. In addition, the prohibition, adopted in 2008, on watering any day between 10 a.m. and 6 p.m. also remains in effect all year-round.

Other year-round watering requirements which remain in effect include:

KNOW YOUR WATERING SCHEDULE

- No watering with irrigation systems or sprinklers between 10 a.m. and 6 p.m. on any day.
- No watering hard surfaces.
- No watering during precipitation.
- No water waste due to missing, misaligned, or broken sprinkler heads.
- Water may not run off a lawn or yard and onto the street. Supervised testing, repair, or maintenance of an irrigation system is an exception.

Watering Schedule

- Residential addresses ending in an even number (0, 2, 4, 6, or 8) may water on WEDNESDAYS and SATURDAYS.
- Residential addresses ending in an odd number (1, 3, 5, 7 or 9) may water on THURSDAYS and SUNDAYS.
- All non-residential locations (apartment complexes, businesses, industries, parks, medians, etc.) may water on TUESDAYS and FRIDAYS.
- No watering on MONDAYS.

Please Note: City restrictions on outdoor watering between 10 a.m. and 6 p.m. remain in effect year-round, even on allowed watering days.

To report a water conservation violation, please call 817-743-4092.

Watering with a soaker hose, drip irrigation, or with a hand-held hose is allowed any time of the day. **However**, it should not create a wasteful water runoff.