Town of Westover Hills

Public Works Department
40 Spring Road, Fort Worth Texas 76107

2016 ANNUAL DRINKING WATER QUALITY REPORT

Period Covered: January 1 to December 31, 2016

Type of System: Purchased Surface Water System

Texas Drinking Water Watch: http://dww2.tceq.texas.gov/DWW/

Public Water System Number: 2200078

This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water. I you would like more information, please contact Tim Chambers of the Westover Hills Public Works Department at (817)737-8442.

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono (817) 737-8442.

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.

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 EPAs Safe Drinking Water Hotline at (800) 426-4791.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- 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.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- 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 which must provide the same protection for public health.

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.

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; persons 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 providers. Additional guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline (800-426-4791).

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. We are responsible for providing high quality drinking water, but we 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.

Information about Source Water Assessments

The TCEQ has completed a Source Water Assessment for all drinking water systems that own their sources. The report describes the susceptibility and type of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The system(s) from which we purchase our water received the assessment report. For more information on source water assessments and protection efforts at our system, contact Tim Chambers at (817)737-8442

For more information about your source of water, please refer to the Source Water Assessment Viewer available at the following URL: https://gisweb.tceq.texas.gov/swav/Controller/index.jsp?wtrsrc= .

Further details about sources and source-water assessments are available in Drinking Water Watch at the following URL: http://dww2.tceq.texas.gov/DWW/ . (Note: Please enter 2200078 for the Water System Number.)

Source Water Name	Type of Water	Report Status	Location
SW FROM FORT WORTH CC FROM TX2200012 CITY OF	SW		Lake Worth, Eagle Mountain Lake, Lake Bridgeport, Richland Chambers Reservoir
SW FROM FORT WORTH CC FROM TX2200012 CITY OF	SW		Lake Worth, Eagle Mountain Lake, Lake Bridgeport, Richland Chambers Reservoir
SW FROM FORT WORTH CC FROM TX2200012 CITY OF	SW		Lake Worth, Eagle Mountain Lake, Lake Bridgeport, Richland Chambers Reservoir

Water Production Test Results for

Drinking Water Quality Test Results

Contaminant	Measure	MCL	2016 Highest single result	Lowest monthly % of samples ≤ 0.3 NTU	MCLG	Common Sources of Substance
Turbidity	NTU	TT	0.36	99.7%	N/A	Soil runoff (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.)

Contaminant	Measure	MCL	2016 Level	Range	MCLG	Common Sources of Substance
Total Coliforms (including fecal coliform & E. coli)	% positive samples	Presence in 5% or less of monthly samples	insert your system's results		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	MCL	2016 Level	Range	MCLG	Common Sources of Substance
Alpha particles[1]	pCi/L	15	2	2 to 2	N/A	Erosion of natural deposits of certain minerals that are radioactive and may emit forms of radiation known as alpha radiation
Beta particles & photon emitters[1]	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
Arsenic	ppb	10	1.40	0 to 1.40	0	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics 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
Chromium (Total)	ppb	100	0.73	0 to 0.73	100	Discharge from steel and pulp mills, erosion of natural deposits
Cyanide	ppb	200	80.3	0 to 80.3	200	Discharge from plastic and fertilizer factories; discharge from steel and metal factories
Fluoride	ppm	4	0.50	0.23 to 0.50	4	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (measured as Nitrogen)	ppm	10	0.66	0.26 to 0.66	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	5.50	0 to 10.4	0	By-product of drinking water disinfection.
Haloacetic Acids	ppb	60	insert your system's results		N/A	By-product of drinking water disinfection
Total Trihalomethanes	ppb	80	insert your system's results		N/A	By-product of drinking water disinfection

Contaminant	Measure	MRDL	2016 Level	Range	MCLG	Common Sources of Substance
Chloramines	ppm	4	**2.39**	**0.90 to 3.3**	4	Water additive used to control microbes

Contaminant	High	Low	Average	MCL	MCLG	Common Sources of Substance
Total Organic Carbon	1	1	1	TT = % removal	N/A	Naturally occurring

It 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.

Footnotes:

[1] Because of historically low levels of radionuclides in its water, TCEQ has Fort Worth on a reduced monitoring schedule. The test results shown are from 2013 through 2014.

Water Purchased from Fort Worth in 2016

Abbreviations used In tables

MCL: Maximum Contaminant Level - 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.

MCLG: Maximum Contaminant Level Goal - 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.

MRDL: Maximum Residual Disinfectant Level - 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.

MRDLG: Maximum Residual Disinfectant Level Goal - 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.

MRL: Minimum Report Level - The lowest concentration of a contaminant that can be measured by a laboratory

NTU - Nephelometric Turbidity Unit; a measure of water turbidity or clarity

pCi/L - Picocuries per liter; a measure of radioactivity

ppb - Parts per billion or micrograms per liter (µg/L)

ppm - Parts per million or milligrams per liter (mg/L)

TT: Treatment Technique - a required process intended to reduce the level of a contaminant in drinking water

Unregulated Contaminants

[4] 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.

Contaminant	Measure	Range of Detects	2016 Level	MCL	MCLG	Common Sources of Substance
Chloral Hydrate	ppb	0.53 to 0.93	0.93	Not regulated	None	By-product of drinking water disinfection
Bromoform	ppb	0 to 4.16	4.16	Not regulated	None	By-products of drinking water disinfection; not regulated individually; included in Total Trihalomethanes
Bromodichloromethane	ppb	2.15 to 7.26	7.26	Not regulated	None	
Chloroform	ppb	4.26 to 13	13.0	Not regulated	None	
Dibromochloromethane	ppb	0 to 10.2	10.2	Not regulated	None	
Monochloroacetic Acid	ppb	0 to 3.0	3.0	Not regulated	None	By-products of drinking water disinfection; not regulated individually; included in Haloacetic Acids
Dichloroacetic Acid	ppb	5.90 to 11.8	11.8	Not regulated	None	
Trichloroacetic Acid	ppb	0 to 1.5	1.5	Not regulated	None	
Monobromoacetic Acid	ppb	0 to 2.2	2.2	Not regulated	None	
Dibromoacetic Acid	ppb	0 to 5.1	5.1	Not regulated	None	

Secondary Constituents

These items do not relate to public health but rather to the aesthetic effects. These items are often important to industry.

Item	Measure	2016 Range
Bicarbonate	ppm	112 to 145
Calcium	ppm	41.1 to 58
Chloride	ppm	15.8 to 20.2
Conductivity	µmhos/cm	322 to 396
pH	units	8.1 to 8.4
Magnesium	ppm	4.63 to 5.86
Sodium	ppm	15.1 to 17.8
Sulfate	ppm	15.8 to 29.9
Total Alkalinity as $CaCO_3$	ppm	112 to 145
Total Dissolved Solids	ppm	180 to 227
Total Hardness as $CaCO_3$	ppm	126 to 164
Total Hardness in Grains	grains/gallon	7 to 10

Microorganism testing shows low detections in raw water

Tarrant Regional Water District monitors the raw water at all intake sites for *Cryptosporidium*, *Giardia Lamblia* and viruses. The source is human and animal fecal waste in the watershed.

The 2016 sampling showed low level detections of *Cryptosporidium*, *Giardia Lamblia* and viruses that are common in surface water. (The table below indicates when detections were found in each raw water source. Including the table in your water quality report is not required.)

Cryptosporidium and *Giardia Lamblia* monitoring is done monthly. Virus monitoring is performed four times a year in January, March, July and September.

Viruses are treated through disinfection processes. *Cryptosporidium* and *Giardia Lamblia* are removed through disinfection and/or filtration.

Intake location	*Giardia Lamblia*	*Cryptosporidium*	Adenovirus	Enterovirsus	Astrovirus	Rotavirus
Richland-Chambers Reservoir	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
Cedar Creek Lake	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
Lake Benbrook	August	Not detected	January	Not detected	Not detected	Not detected
Eagle Mountain Lake	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
Lake Worth	June	Not detected	January & September	Not detected	Not detected	Not detected
Clearfork of Trinity River	May, June, August, September, November	June & August	January & March	Not detected	Not detected	Not detected

TCEQ accesses raw water supplies for susceptibility

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.

The Texas Commission on Environmental Quality completed an assessment of Fort Worth's source waters. TCEQ classified the risk to our source waters as high for most contaminants.

High susceptibility means there are activities near the source water a or watershed make it very likely that chemical constituents may come into contact with the source water. It does not mean that there are any health risks present.

Tarrant Regional Water District, from which Fort Worth purchases its water, received the assessment reports.

For more information on source water assessments and protection efforts at our system, contact Stacy Walters at 817-392-8203.

Further details about the source-water assessments are available in the Texas Commission on Environmental Quality's Drinking Water Watch database at *http://dww2.tceq.texas.gov/DWW/JSP/SWAP.jsp?tinwsys_is_number=5802&tinwsys_st_code=TX&wsnumber=TX2200012%20%20%20&DWWState=TX*.

Lead and Copper

Definitions:

Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

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

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2016	1.3	1.3	0.547	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2016	0	15	4.1	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

Water Quality Test Results

Definitions:	The following tables contain scientific terms and measures, some of which may require explanation.
Avg:	Regulatory compliance with some MCLs are based on running annual average of monthly samples.
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.
Level 1 Assessment:	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
Maximum Contaminant Level Goal or	The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow
Level 2 Assessment:	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our
Maximum residual disinfectant level or	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.
Maximum residual disinfectant level goal or	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.
MFL	million fibers per liter (a measure of asbestos)
na:	not applicable.

Water Quality Test Results

mrem:	millirems per year (a measure of radiation absorbed by the body)
NTU	nephelometric turbidity units (a measure of turbidity)
pCi/L	picocuries per liter (a measure of radioactivity)
ppb:	micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.
ppm:	milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.
Treatment Technique or TT:	A required process intended to reduce the level of a contaminant in drinking water.
ppt	parts per trillion, or nanograms per liter (ng/L)
ppq	parts per quadrillion, or picograms per liter (pg/L)

Regulated Contaminants

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)	2016	9	7.7 - 9.5	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2016	13	10.3 - 16.2	No goal for the total	80	ppb	N	By-product of drinking water disinfection.
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Nitrate [measured as Nitrogen]	2016	1	0.61 - 0.652	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

The next opportunity for public participation regarding the Public Water System will be on July 18th 2017, at the Westover Hills Council Chambers at 5824 Merrymount Road, Fort Worth TX 76107. The July Council Meeting will be held at 6:00 P.M. For more information, please contact Tim Chambers at (817)737-8442.