



CITY OF ROANOKE 2016

DRINKING WATER QUALITY REPORT

265 Marshall Creek Rd.

817-491-6099



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. Immune-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 (800-426-4791).

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.

Where do we get our drinking water?

Our drinking water is obtained from surface water from Eagle Mountain lake and purchased from the City of Fort Worth. TCEQ completed an assessment of our source water and results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for our water system are based on this susceptibility and previous sample data. Any detections of these contaminants will be found in this report. The City of Fort Worth susceptibility is not included in this assessment. For more information on source water assessments and protection efforts at our system, please contact Shawn Wilkinson, Assistant Director of Public Works, Roanoke 817-491-6099.

En Español

Este informe incluye información importante sobre el agua potable. Si tiene preguntas o comentarios sobre este informe en español, favor de llamar al tel. 817-491-6099—para hablar con una persona bilingüe en español.

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

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 (800-426-4791).

Definitions

MCLG - Maximum Contaminant Level Goal - 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.

MCL - Maximum Contaminant Level - 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.

MRDL - Maximum Residual Disinfectant Level - 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.

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 contamination.

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

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

Abbreviations

MFL - Million Fibers Per Liter - a measure of asbestos

ppm - Parts Per Million or milligrams per Liter (mg/L)

ppb - Parts Per Billion or micrograms per liter (ug/L)

ppt - Parts Per Trillion or nanograms per Liter

ppq - Parts per quadrillion or picograms per Liter

pCi/l - picocuries per liter - a measure of radioactivity

Public Participation Opportunities

The City Council meets on the second and fourth Tuesday of every month at 7:00 P.M. at City Hall. Call 817-491-2411 if you need additional information

About the following data

The pages that follows lists all of the federally regulated or monitored constituents which have been found in your drinking water. The U.S. EPA requires water systems to test up to 97 contaminants.

Inorganic Contaminants

Contaminant	Units of Measurement	MCL	2016 Level	Range of Levels Detected	MCLG	Source of Contaminant
Arsenic	ppb	10	1.40	0-1.40	0	Erosion of natural deposits; runoff from orchards, runoff from glass and electronics production wastes
Barium	ppm	2	0.06	0.05-0.06	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Alpha Particles *	pCi/L	15	2	2-2	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	pCi/L	50	5.6	4-5.6	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	0.50	0.23-0.50	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (measured as Nitrogen)	ppm	10	0.398	0.398-0.398	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (measured as Nitrogen)	ppm	1	0.03	0.01-0.03	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Chromium (Total)	ppb	100	0.73	0-0.73	100	Discharge from steel and pulp mills, erosion of natural deposits
Cyanide	ppb	200	80.3	0-80.3	200	Discharge from platica nd fertilizer factories; discharge from steel and metal factories
Bromate	ppb	10	5.50	0-10.4	0	By-product of drinking water disinfection
Haloacetic Acids	ppb	60	11	6.8-18.2	N/A	By-product of drinking water disinfection
Total Trihalomethanes	ppb	80	11	3.8-15.5	N/A	By-product of drinking water disinfection
Total Coliforms (including fecal coliform & E.coli)	% of positive samples	Presence in 5% or more of monthly samples	Presence in 0% of monthly samples	0%	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	Units of Measure	MCL	2016 Level	Range of Levels Detected	MCLG	Source of Chemical
Turbidity	NTU	TT	0.36 Highest single result 99.7% Lowest monthly % of samples ≤ 0.3 NTU	N/A	N/A	Soil Runoff

Maximum Residual Disinfectant Level

Disinfectant	Year	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Units of Measure	Violation (Y/N)	Likely Source of Contamination
Total Chloramines	2016	2.80	1.10	4.0	4.0	4.0	ppm	N	Water additive used to control microbes

Contaminant	High	Low	Average	MCL	MCLG	Source of Chemical
Total Organic Carbon	1	1	1	TT=% Removal	N/A	Naturally occurring

Lead and Copper

Year	Contaminant	MCLG	The 90th Percentile	Number of Sites Exceeding Action Level	Action Level	Unit of Measure	Source of Contaminant
9/28/15	Lead	15	2.3	0	15	ppb	Corrosion of household plumbing systems; erosion of natural deposits
9/28/15	Copper	1.3	0.29	0	1.3	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

* Footnote: Because of historically low levels of Radionuclides in its water, TCEQ has Fort Worth on a reduced monitoring schedule. The test results shown are form 2013-2014.

Violations						
The Public Notification Rule helps to ensure that consumers will always know there is a problem with their drinking water. These notices immediately alert consumers if there is a serious problem with their drinking water (e.g., a boil water emergency).						
Violation Type	Violation Begin	Violation End	Violation Explanation			
Lead Consumer Notice (LCR)	12/30/2015	2015	We failed to provide the results of lead tap water monitoring to the consumers at the location water was tested. These were supposed to be provided no later than 30 days after learning the results.			
Public Notice Ruled Linked to Violation	2/13/2015	2015	We failed to adequately notify you, our drinking water consumers, about a violation of the drinking water regulations.			
Unregulated Contaminates						
Bromoform, chloroform, dichlorobromomethane and dibromochloromethane are disinfection byproducts. There is no maximum contaminant level for these chemicals at the entry point to distribution.						
Contaminant	Unit of Measure	Range of Level Detected	2016 Level	MCL	MCLG	Source of Chemical
Chloro Hydrate	ppb	0.53-0.93	0.93	Not Regulated	None	Byproduct of drinking water disinfection; not regulated individually; included in Total Trihalomethanes.
Bromoform	ppb	0-4.16	4.16	Not Regulated	None	
Bromodichloromethane	ppb	2.15-7.26	7.26	Not Regulated	None	
Chloroform	ppb	4.26-13.0	13.0	Not Regulated	None	
Dibromochloromethane	ppb	0-10.2	10.2	Not Regulated	None	Byproduct of drinking water disinfection
Monochloroacetic Acid	ppb	0-3.0	3.0	Not Regulated	None	Byproduct of drinking water disinfection; not regulated individually; included in Haloacetic Acids.
Dichloroacetic Acid	ppb	5.90-11.8	11.8	Not Regulated	None	
Trichloroacetic Acid	ppb	0-1.5	1.5	Not Regulated	None	
Monobromoacetic Acid	ppb	0-2.2	2.2	Not Regulated	None	
Dibromoacetic Acid	ppb	0-5.1	5.1	Not Regulated	None	
Secondary and Other Constituents Not Regulated (No associated health effects)						
Constituent	2016 Range		Unit of Measure			
Bicarbonate	112-145		ppm			
Calcium	41.1-58.0		ppm			
Chloride	15.8-20.2		ppm			
Conductivity	322-396		µmhos/m			
Ph	8.1-8.4		units			
Magnesium	4.63-5.86		ppm			
Sodium	15.1-17.8		ppm			
Sulfate	15.8-29.9		ppm			
Total Alkalinity as CaCO3	112-145		ppm			
Total Dissolved Solids	180-227		ppm			
Total Hardness as CaCO3	126-164		ppm			
Total Hardness in Grains	7-10		grains/gallons			
			<p align="center">Mandatory Language for Lead and Copper</p> <p>If present, elevated levels of lead can lead to 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 private plumbing.</p> <p>The City of Roanoke 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.</p> <p>If you are concerned about lead in your drinking 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 www.epa.gov/safewater/lead</p>			

Data Gathering to Determine if more Regulation Needed

Water utilities in the United States monitor for more than 100 contaminants and meet 91 regulations for water safety and quality.

But should other contaminants be regulated?

The 1996 Safe Drinking Water Act amendments require that once every five years EPA issues a new list of more than 30 unregulated contaminants to be monitored by public water systems. This monitoring provides a basis for future regulatory actions to protect public health.

The first Unregulated Contaminant Monitoring Rule (UCMR1) was published on Sept. 17, 1999, the second (UCMR2) was published on Jan. 4, 2007 and the third (UCMR3) was published on May 2, 2012. Fort Worth did not detect any of the contaminants in the UCMR1 and UCMR2 testing.

The third Unregulated Contaminant Monitoring Rule includes assessment for 21 chemical contaminants, 7 hormones and 2 viruses. The virus testing did not impact Fort Worth. This testing was limited to small groundwater systems that do not disinfect.

UCMR 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 health risks.

Public water systems will sample for these contaminants for four consecutive quarters from 2013 to 2015. Fort Worth's sampling occurred from June 2013 through March 2014. The results shown are for the first three quarters of sampling. The final quarter's

Cryptosporidium Testing

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	<i>Giardia Lamblia</i>	<i>Cryptosporidium</i>	Adenovirus	Enterovirus	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 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://dww8.tceq.texas.gov/DWW/JSP/SWAP.jsp?tinwsys^is^number^1468&tinwsys^st^code^TX&wsnumber^TX8866678/86/20%20&DWWState=TX>.

Cleaner Curbs & Cleaner Creeks for a Healthier Community



Prevent storm water pollution in your community:



- Comply with local ordinances and storm water pollution prevention programs.
- Keep Your Waterways Beautiful.
- Participate in cleanup activities in your neighborhood.
- Support environmental education and programs in your city, county and school.
- Volunteer to place curb markers in storm drains.
- Report littering to the state hotline at 888.TEX.8683 or www.dontmesswithtexas.org
- Report illegal dumping in Roanoke, Texas at 817-491-6099.

www.dfwstormwater.com

www.roanoketexas.com

