

This report is a summary of the quality of water the City of North Richland Hills provides to customers. The analysis was made by using data from the most recent U.S. Environmental Protection Agency (EPA) required testing and is presented in the following information. We hope this information helps you become more knowledgeable about what's in your drinking water.

En Español

Este reporte incluye importante información sobre el agua potable. Si tiene preguntas ó comentarios sobre éste reporte, puede comunicarse con una representante bilingüe al teléfono (817) 427-6400.

Where do we get our drinking water?

City's drinking water is obtained from ground and surface water sources. It comes from the following Lake/River/Reservoir/Aquifer: BENBROOK LAKE, LAKE WORTH, EAGLE MOUNTAIN LAKE, LAKE ARLINGTON, LAKE BRIDGEPORT, CEDAR CREEK RESERVOIR, RICHLAND CHAMBERS RESERVOIR, PAULUXY AND TRINITY AQUIFERS. It is important to protect your drinking water by protecting your water source.

State Agency Assessed Source Waters

The City of North Richland Hills purchases drinking water from the City of Fort Worth and the Trinity River Authority (TRA). In 2003, the Texas Commission on Environmental Quality (TCEQ) conducted an assessment of the Fort Worth and TRA water supply lakes. The assessment found that Fort Worth and TRA water systems are susceptible to some contaminants using criteria developed by TCEQ in its federally approved Source Water Assessment Program. The assessment describes the susceptibility and types of constituents that may come into contact with your drinking water sources based on human activities and natural conditions.

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. The 2003 report is available by contacting the Fort Worth Water Department office at 1000 Throckmorton Street or the Trinity River Authority at 11201 Trinity Boulevard in Euless, Texas.

Currently TCEQ is updating the Source Water Susceptibility Assessment for your drinking water sources. Some of this source water assessment information will be available on Texas Drinking Water Watch at <http://dww.tceq.state.tx.us/DWW/>.



**EVERY DROP OF WATER COUNTS
CONSERVE TODAY FOR TOMORROW.**

**Special Notice For THE ELDERLY, INFANTS, CANCER PATIENTS,
People With HIV/AIDS Or Other Immune Problems:**

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. EPA/Centers for Disease Control and Prevention (CDC) offers guidelines on the appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the EPA's Safe Drinking Water Hotline at (800) 426-4791.

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 the 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).

Public Participation Opportunities

If you have concerns or questions about North Richland Hills' drinking water quality, or would like to request a speaker on this topic for a group or organization meeting, please call 817-427-6440 or visit the City's website (www.nrhtx.com).

North Richland Hills' governing body, the City Council, meets the second and fourth Monday of the month at 7:00 p.m. at City Hall. Citizens are encouraged to attend Council Meetings. Please call 817-427-6060 for information about the Council Meetings.

About the Following Information

The following information lists all of the federally regulated or monitored constituents which have been found in your drinking water for 2013 calendar year. The EPA requires water systems to test up to 97 constituents.

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 concerns. Therefore, secondaries are not required to be reported in this document but they may greatly affect the appearance and taste of your water.

Cryptosporidium, Giardia & Viruses Monitoring

2013 testing of lake water revealed very low levels of Cryptosporidium, Giardia Lamblia and viruses. These are microbial pathogens which may be found in water contaminated by feces.

Required levels of inactivation are achieved through disinfection and filtration. Although filtration removes Cryptosporidium, it cannot guarantee 100 percent removal nor can the testing methods determine if the organisms are alive and capable of causing Cryptosporidium, an abdominal infection with nausea, diarrhea and abdominal cramps may occur after ingestion of contaminated water. 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.

What Is In The Water

The following charts list the contaminants that require monitoring or are regulated and detected in North Richland Hills' water. The data included is from calendar year 2013 unless otherwise indicated. In addition, since North Richland Hills receives its water from the City of Fort Worth and Trinity River Authority, the levels included are a compilation of both entities annual sampling results with the highest detected levels being shown.

Lead and Copper

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.

The City of North Richland Hills 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 EPA's Safe Drinking Water Hotline (800-426-4791) or at <http://www.epa.gov/safewater/lead>.

North Richland Hills' water did not exceed any of the regulated limits in 2013.

North Richland Hills Water Loss for 2013

For the calendar year 2013, our system lost an estimated 97,452,565 gallons of water per the audit submitted to the Texas Water Development Board. If you have any question about the water loss audit please call (817) 427-6440.

Understanding This Information Below is a list of abbreviations and definitions intended to assist in understanding the information provided in the following charts.

Maximum Contaminant Level (MCL) - The highest permissible level of a contaminant in drinking water. MCL's are set as close to the MCLG's 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. MCLG's allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the 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 health risk. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA - Not Applicable.

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

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

NTU - Nephelometric Turbidity Units (a measure of water turbidity or clarity)

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 (ug/L).

Regulated Contaminants	<u>Contaminant</u>	<u>Unit of Measure</u>	<u>Highest Allowed MCL</u>	<u>North Richland Hills Water</u>	<u>Range of Detections</u>	<u>Ideal Goal (MCLG)</u>	<u>Common Sources of Substance in Drinking Water</u>
	Barium	ppm	2	0.06	0.05 to 0.06	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
	Betaparticles & Photon emitters ¹	pCi/L	50 ²	7.5	0 to 7.5	N/A ²	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	0.16 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	0.154 to 0.78	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
	Turbidity ³	NTU	TT = 1	0.38%	0.09 to 0.38	0	Soil runoff.
TT =<95%			99.4%	99.4% to 100%	100		

¹ Because North Richland Hills historically has had low levels of radionuclides in its water, the Texas Commission on Environmental Quality (TCEQ) has North Richland Hills' on a reduced monitoring schedule. The test results shown above are from 2011 through 2013 .

² The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

³ Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of the filtration system.

Regulated in the Distribution System	<u>Contaminant</u>	<u>Unit of Measure</u>	<u>Highest Allowed MCL</u>	<u>North Richland Hills Water</u>	<u>Range of Detections</u>	<u>Ideal Goal (MCLG)</u>	<u>Common Sources of Substance in Drinking Water</u>
	Bromate	ppb	10	5.7	0.8 to 5.7	0 ⁴	Byproduct of drinking water disinfection.
	Haloacetic Acids ⁵ (HAA5)	ppb	60	18.7	4.7 to 18.7	N/A	Byproduct of drinking water disinfection.
	Total Trihalomethanes ⁵ (TTHM)	ppb	80	39.9	10.9 to 39.9	N/A	Byproduct of drinking water disinfection.
	Total Coliforms ⁶ (including fecal coliform & E. Coli)	% of positive samples	Present in 5% of samples	Present in 2.2% of monthly samples	0 to 2.2%	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.
<u>Contaminant</u>	<u>Unit of Measure</u>	<u>MRDL</u>	<u>North Richland Hills Water</u>	<u>Range of Detections</u>	<u>Ideal Goal (MRDLG)</u>	<u>Common Sources of Substance in Drinking Water</u>	
Chloramines	ppm	4	3.0	0.5 to 4.2	4	Water additive to control microbes.	
<u>Contaminant</u>	<u>High</u>	<u>Low</u>	<u>Range of Detections</u>	<u>MCL</u>	<u>MCLG</u>	<u>Common Sources of Substance</u>	
Total Organic Carbon ⁷	1.03	1.0	1.0 to 1.03	TT = 1.0 removed	N/A	Naturally occurring.	

⁴ Compliance is based on Running Annual Average of monthly averages for Bromate at the end of each quarter, which was less than 5 ppb for 2013.

⁵ Initial Distribution System Evaluation for Disinfection Byproduct—This evaluation is sampling required by EPA to determine the range of total trihalomethane and haloacetic acid in the system. Some of these samples are regulated and some are non-regulated. In all cases the samples were less than the highest allowed MCL. EPA also requires the data to be reported here.

⁶ No more than 5.0% samples of coliform-positive in a month. Every sample that has total coliform must be analyzed for either fecal coliforms or E. coli. If two consecutive total coliforms-positive samples, and one is also positive for E-coli fecal coliforms, system has an acute MCL violation.

⁷ Total Organic Carbon is used to determine disinfection by-product precursors. North Richland Hills was in compliance with all monitoring and treatment technique requirements for disinfection by-product precursors.

Regulated at the Customer's Tap

<u>Contaminant</u>	<u>90th percentile values⁹</u>	<u>No. of Sites Exceeding Actions Level</u>	<u>MCL</u>	<u>MCLG</u>	<u>Common Sources of Substance in Drinking Water</u>
Lead ⁸ (ppm)	0.00112	0	Action Level = 0.015	N/A	Corrosion of household plumbing systems; erosion of natural depos-
Copper ⁸ (ppm)	0.201	0	Action Level = 1.3	N/A	

⁸ Because North Richland Hills historically has had low levels of lead and copper in its water, the Texas Commission on Environmental Quality has North Richland Hills on a reduced monitoring schedule. The test results shown above are from 2012. The next testing is currently scheduled for 2015.

⁹ 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.

Unregulated Contaminants¹⁰

<u>Contaminant</u>	<u>Range of Detections</u>	<u>2012 Level</u>	<u>MCL</u>	<u>MCLG</u>	<u>Common Sources of Substance in Drinking Water</u>
Bromoform (ppb)	0 to < 1.0	< 1.0	Not regulated	None	Byproduct of drinking water disinfection; not regulated individually; included in Total Trihalomethanes.
Bromodichloromethane (ppb)	3.7 to 13.8	13.8	Not regulated	None	
Chloroform (ppb)	5.2 to 19.7	19.7	Not regulated	70	
Dibromochloromethane (ppb)	2 to 7.16	7.16	Not regulated	60	
Dichloroacetic Acid (ppb)	1.7 to 12.3	12.3	Not regulated	None	Byproduct of drinking water disinfection; not regulated individually; included in Haloacetic Acids.
Trichloroacetic Acid (ppb)	1.4 to 5.7	5.7	Not regulated	20	

¹⁰ Unregulated contaminants are those for which EPA has not established drinking water standards. 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.

Additional Parameters

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.

<u>ITEM</u>	<u>UNIT OF MEASURE</u>	<u>NORTH RICHLAND HILLS WATER</u>
Bicarbonate	ppm	86 to 114
Calcium	ppm	23.7 to 42
Chloride	ppm	10 to 26
Conductivity	umhos/cm	264 to 360
pH	units	7.4 to 9.2
Magnesium	ppm	3 to 6
Sodium	ppm	17 to 27
Sulfate	ppm	22 to 43
Total Alkalinity as CaCO ₃	ppm	86 to 114
Total Dissolved Solids	ppm	150 to 244
Total Hardness as CaCO ₃	ppm	74.6 to 122
Total Hardness in grains	grains/gallons	5 to 7

Source Water Assessments

As indicated previously in this report, the City of North Richland Hills purchases treated water from the City of Fort Worth and Trinity River Authority. North Richland Hills is also capable of utilizing well water, however, it is seldom required. In 2003, the Texas Commission on Environmental Quality completed source water assessments on all seven (7) drinking water sources for Fort Worth and the Trinity River Authority raw water source. The source water assessments 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 this assessment will allow you to focus on source water protection strategies. More information about source water assessment and protection can be found at <http://cfpub.epa.gov/safewater/sourcewater> or you can contact Public Works at 817-427-6440 or email nrhpw@nrhtx.com for more information.

City of Fort Worth's UCMR 3 Testing Information

Data gathering to determine if more regulation needed

Water utilities in the United States monitor for more than 100 contaminants and must 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 issue a new list of no 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 (UCMR 1) was published on Sept. 17, 1999, the second (UCMR 2) was published on Jan. 4, 2007 and the third (UCMR 3) was published on May 2, 2012. Fort Worth did not detect any of the contaminants in the UCMR 1 and UCMR 2 testing.

The third Unregulated Contaminant Monitoring Rule includes assessment for 21 chemical contaminants, 7 hormones and two 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 a health risk.

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 results will appear in next year's annual water quality report.

The following information is provided by the City of Fort Worth since North Richland Hills purchases treated water from Fort Worth.

Additional Information:

Water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/index.cfm

UCMR 3					
Fort Worth's testing detected only six of the 21 chemical contaminants and none of the seven hormones.					
Contaminant	Measure	Range of Detects	2013 Level	MRL	Common Sources of Substance
Bromochloromethane (Halon 1011)	ppb	0 to 0.25	0.25	0.06	Used as a fire-extinguishing fluid, an explosive suppressant, and as a 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 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 ¹	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 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 UCMR3, EPA requires testing for Total Chromium in the same samples used to test for Chromium 6, which is on the UCMR3 list. 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
 bromonethane
 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

2013 water quality data for wholesale customers

Currently the City of North Richland Hills is performing UCMR 3 testing in the distribution system for the calendar year of 2014. The results of these tests will appear in next year's Annual Water Quality Report