City Of Terrell

Annual Water Quality Report

2014 Consumer Confidence Report

IMPORTANT INFO: LEAD AND 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. 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.

EL REPORTE EN ESPAÑOL

Este reporte incluye informaccion importante sobre el agua para tomar. Para assistencia en espanol, favor de llamar al telefono (972) 551-6635

Call us for information about the next opportunity for public participation in decisions about our drinking water. Find out more about the City of Terrell at our website at http://www.cityofterrell.org

For more information regarding this report contact Dick L. Boyd at (972) 551-6635.

About our Drinking water

This Consumer Confidence Report includes information on water source, contaminants found in the water, special health effects, any water drinking violations, and data reporting from January 1 to December 31, 2014.

The City of Terrell is proud of the fine drinking water it provides. This report is intended to provide you with important information about your drinking water and the efforts made by our water system to provide safe drinking water. City of Terrell is Purchased Surface Water system. The source of drinking water (both tap and bottled water) includes 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 pickup substances resulting from the presence of animals or from human activity.

SPECIAL NOTICE

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.

YOUR DRINKING WATER IS SAFE

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

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 us at (972) 551-6600. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Again, 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.

TYPES OF CONTAMINANTS

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 of urban storm 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.

INFORMATION ABOUT SOURCE WATER ASSESSMENTS

A Source Water Susceptibility Assessment for your drinking water source(s) is currently being updated by the Texas Commission on Environmental Quality. This information describes susceptibilty 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.

For more information about your sources of water, please refer to the SourceWater Assessment Viewer available at the following URL: http://gis3.tceq.state.tx.us/swav/Controller/index/jsp?wtrsrc=

Further details about sources and source-water assessments are availahle in Drinking Water Watch at the following URL: http://dww.tceq.texas.gov/DWW

Source Water Name: North Texas Municipal Water District (NTMWD) - TX0430044 North (Surface Water)

Understanding Water Quality Test

Definitions:

Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or 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.
Avg: Regulatory compliance with some MCLs are based on running annual average monthly samples.
Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close the MCLGs as feasible using the best available treatment technology.
Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no know or expected risk to health. MCLGs allow for a margin of safety.
Maximum Residual disinfectant level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of disinfectants to control microbial contaminants.
MFL: million fibers per liter (a measure of asbestos)
NA: not applicable
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.

Drinking Water Quality Results

The following table lists the regulated and monitored chemical constitutents which have been found in our drinking water. The U.S. EPA water systems to test for up to 97 federally regulated primary constituents.

Lead and Copper

Year	Substance	MCLG	Action Level	90th Percentile	# Sites Over AL	Units	Violations
2013	Copper	1.3	1.3	0.441	0	ppm	N
2013	Lead	0	15	2.8	0	ppb	N

Copper (Likely Source of Contamination): Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead (Likely Source of Contamination): Corrosion of household pluming systems; Erosion of natural deposits

Regulated contaminants

Disinfectants and disinfection by-products

Year	Substance	Highest Level Detected (1)	Range of Levels Detected (2)	MCLG	MCL	Units	Violations
2014	Haloacetic Acid (HAA5)	15	13.5-21.3	No Goal	60	ppb	N
2014	Total Triahalomethane (TTHM)	42	30.4-84.2	No Goal	80	ppb	N
2014	Bromate	Lower than detect level	0-0	5	10	ppb	N

(1) Based on Running Annual Average
(2) Based on Individual Sample
Haloacetic Acid (HAA5) (Likely Source of Contaminants: Byproduct of drinking water disinfection
Trihalomethane (TTHM) (like Source of Contaminants): Byproduct of drinking water disinfection.

Inorganic Contaminants

Year	Substance	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violations
2014	Nitrate (Measured as Nitrogen)	0.217	0.217-0.217	10	10	ppm	N

Nitrate (measured as Nitrogen): Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Where your water comes from

The sources of drinking water (both tap 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 radioactive material and can pick up substances resulting from the presence of animals or from human activity.

The City of Terrell purchases treated water from North Texas Municipal Water District (NTWMD). NTMWD utilizes four reservoirs: Lavon Lake, Lake Jim Chapman, Lake Tawakoni, and Lake Texamo for their raw water supplies. The City of Terrell's Water Treatment Plant was decommissioned on June 19, 2007.

About Secondary Constituents

Contaminants and many constituents (such as calcium, sodium, 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 contaminants and constituents are not causes for health concern. Therefore, secondary constituents are not required to be reported in this document, but they may greatly effect the appearance and taste of your water. For more information taste, odor, and color of drinking water, please contacts us at (972) 551-6635.

Lead and Copper Notification:

Lead and copper consumer notice Violation (Violation Ended in 2014)

All lead and copper results met regulatory standards. We were supposed to provide results to residents at sample point locations no later than 30 days after learning of results.
Please contact us at (972) 551-6635 for any inquiries you may have.

More Drinking Water Quality Results

Coliform Bacteria

MCLG	Total Coliform MCL	Highest No. of Positive	Fecal Coliform or E. Coli MCL	Total Number of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	1 positive monthly sample	1		0	N	Naturally present in the environment

Note: reported monthly test found no fecal coliform bacteria. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potential harmful, bacteria may be present.

Other Regulated Contaminants

Inorganic Contaminants

Collection Date	Inorganic Contaminants	Highest Level Detected	Range of Levels	MCLG	MCL	Units	Violations	Likely Source of Contamination
2014	Antimony	Levels lower than detect level	0-0	6	6	ppb	N	Discharge from petroleum refineries; fire retardans; electronics; solder; and test addition
2014	Arsenic	Levels lower than detect level	0-0	0	10	ppb	N	Erosion on natural deposits; runoff from orchards; runoff from glass and electronics productions waste
2014	Barium	.062	.062-.062	2	2	ppm	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
2014	Beryllium	Levels lower than detect level	0-0	4	4	ppb	N	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
2014	Cadmium	Levels lower than detect level	0-0	5	5	ppb	N	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
2014	Chromium	.00058	.00058-.00058	100	100	ppb	N	Discharge from steel and pulp mills; erosion of natural deposits
2014	Fluoride	0.496	.496-.496	4	4	ppm	N	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
2014	Mercury	Levels lower than detect level	0-0	2	2	ppb	N	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
2014	Nitrate	0.266	.266-.266	10	10	ppm	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
2014	Selenium	Levels lower than detect level	0-0	50	50	ppb	N	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
2014	Thallium	Levels lower than detect level	0-0	0.5	2	ppb	N	Discharge from electronics, glass, and leaching from ore-processing sites; drug factories

Nitrate Advisory: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider. .

Radioactive Contaminants

Collection Date	Inorganic Contaminants	Highest Level Detected	Range of Levels	MCLG	MCL	Units	Violations	Likely Source of Contamination
2012	Beta/Photon Emitters	Levels lower than detect level	0-0	0	4	mrem /yr	N	Decay of natural man-made deposits
2012	Gross Alpha excluding radon and uranium	Levels lower than detect level	0-0	0	15	pCi/L	N	Erosion of natural deposits
2012	Radium	Levels lower than detect level	0-0	0	5	pCi/L	N	Erosion of natural deposits

Synthetic organic contaminants including pesticides and herbicides

Collection Date	Inorganic Contaminants	Highest Level Detected	Range of Levels	MCLG	MCL	Units	Violations	Likely Source of Contamination
2012	2, 4, 5 - TP (Silvex)	Levels lower than detect level	0-0	50	50	ppb	N	Residue from banned herbicide
2012	2, 4 - D	Levels lower than detect level	0-0	70	10	ppb	N	runoff from herbicide used on row crops
2012	Alachlor	Levels lower than detect level	0-0	0	2	ppb	N	runoff from herbicide used on row crops
2012	Atrazine	Levels lower than detect level	0-0	3	3	ppb	N	runoff from herbicide used on row crops
2012	Benzo (a) pyrene	Levels lower than detect level	0-0	0	200	ppt	N	Leaching from linings of water storage tanks and distribution lines
2012	Carbofuran	Levels lower than detect level	0-0	40	40	ppb	N	Leaching from soil fumigant used on rice and alfalfa
2012	Chlordane	Levels lower than detect level	0-0	0	2	ppb	N	Residue of banned termicide
2012	Dalapon	Levels lower than detect level	0-0	200	200	ppb	N	Runoff from herbicide used on rights of way
2012	Di (2-ethylexyl) adipate	Levels lower than detect level	0-0	400	400	ppb	N	Discharge from chemical factories
2012	Di (2-ethylexyl) phthalate	Levels lower than detect level	0-0	0	6	ppb	N	Discharge from rubber and chemical factories
2012	Dibromochloro propane (DBCP)	Levels lower than detect level	0-0	0	0	ppt	N	Runoff/Leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
2012	Dinoseb	Levels lower than detect level	0-0	7	7	ppb	N	Runoff from herbicide used on soybeans and vegetables
2012	Endrin	Levels lower than detect level	0-0	2	2	ppb	N	Residue of banned insecticide

Synthetic organic contaminants including pesticides and herbicides (continued)

Collection Date	Inorganic Contaminants	Highest Level Detected	Range of Levels	MCLG	MCL	Units	Violations	Likely Source of Contamination
2012	Ethylene Dibromide	Levels lower than detect level	0-0	0	50	ppt	N	Discharge from petroleum refineries
2012	Heptachlor	Levels lower than detect level	0-0	0	400	ppt	N	Residue of banned termiticide
2012	Heptachlor Epoxide	Levels lower than detect level	0-0	0	200	ppt	N	Breakdown of heptachlor
2012	Hexachlorobenzene	Levels lower than detect level	0-0	0	1	ppb	N	Discharge from metal refineries and agricultural chemical factories
2012	Hexachlorocyclopentadiene	Levels lower than detect level	0-0	50	50	ppb	N	Discharge from chemical factories
2012	Lindane	Levels lower than detect level	0-0	200	200	ppt	N	runoff/leaching from insecticide used on cattle, lumber, and gardens
2012	Methoxychlor	Levels lower than detect level	0-0	40	40	ppt	N	Runoff/Leaching from insecticide used on fruits, vegetables, alfalfa, and livestock
2012	Oxamyl (Vydate)	Levels lower than detect level	0-0	200	200	ppb	N	Runoff/Leaching from insecticide used on apples, potatoes, and tomatoes
2012	Pentachlorophenol	Levels lower than detect level	0-0	0	1	ppb	N	Discharge from wood preserving factories
2012	Simazine	Levels lower than detect level	0-0	4	4	ppb	N	Herbicide runoff
2012	Toxaphene	Levels lower than detect level	0-0	0	3	ppb	N	Runoff/Leaching from insecticide used on cotton and cattle

Volatile Organic Contaminants

Collection Date	Inorganic Contaminants	Highest Level Detected	Range of Levels	MCLG	MCL	Units	Violations	Likely Source of Contamination
2014	1, 1, 1 - Trichlorethane	Levels lower than detect level	0-0	200	200	ppb	N	Discharge from metal degreasing sites and other factories
2014	1, 1, 2 - Trichloroethane	Levels lower than detect level	0-0	3	5	ppb	N	Discharge from industrial chemical factories
2014	1, 1 - Trichloroethylene	Levels lower than detect level	0-0	7	7	ppb	N	Discharge from industrial chemical factories
2014	1, 2, 4 - Trichlorobensene	Levels lower than detect level	0-0	70	70	ppb	N	Discharge from textile-finishing factories
2014	1, 2 - Dichloroethane	Levels lower than detect level	0-0	0	5	ppb	N	Discharge from industrial chemical factories
2014	1, 2 - Dichloropropane	Levels lower than detect level	0-0	0	5	ppb	N	Discharge from industrial chemical factories
2014	Benzene	Levels lower than detect level	0-0	0	5	ppb	N	Discharge from factories; leaching from gas storage tanks and landfills
2014	Carbon Tetrachloride	Levels lower than detect level	0-0	0	5	ppb	N	Discharge from chemical plants and other industrial activities
2014	Chlorobensene	Levels lower than detect level	0-0	100	100	ppb	N	Discharge from chemical and agricultural chemical factories
2014	Dichloromethane	Levels lower than detect level	0-0	0	5	ppb	N	Discharge from pharmaceutical and chemical factories
2014	Ethylbensene	Levels lower than detect level	0-0	0	700	ppb	N	Discharge of petroleum refineries
2014	Styrene	Levels lower than detect level	0-0	100	100	ppb	N	Discharge from rubber and plastic factories; leaching from landfills
2014	Tetrachloroethlene	Levels lower than detect level	0-0	0	5	ppb	N	Discharge from factories and dry cleaners
2014	Toluene	Levels lower than detect level	0-0	1	1	ppm	N	Discharge from petroleum factories
2014	Trichloroethylene	Levels lower than detect level	0-0	0	5	ppb	N	Discharge from metal degreasing sites and other factories
2014	Vinyl Chloride	Levels lower than detect level	0-0	0	2	ppb	N	Leaching from PVC piping; discharge from plastic factories
2014	Xylenes	Levels lower than detect level	0-0	10	10	ppm	N	Discharge from petroleum factories; discharge from chemical factories
2014	cis - 1, 2 - Dichloroethylene	Levels lower than detect level	0-0	70	70	ppb	N	Discharge from industrial chemical factories
2014	o - Dicchlorobenzene	Levels lower than detect level	0-0	600	600	ppb	N	Discharge from industrial chemical factories
2014	p - Dichlorobenzene	Levels lower than detect level	0-0	75	75	ppb	N	Discharge from industrial chemical factories
2014	trans - 1, 2 - Dichloroethylene	Levels lower than detect level	0-0	100	100	ppb	N	Discharge from industrial chemical factories

Turbidity

	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest single measurement	1 NTU	0.3	N	Soil Runoff
Lowest monthly percentage (%) meeting limit	0.3 NTU	100.00%	N	Soil Runoff

Note: 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.

More Drinking Water Quality Results

Maximum Disinfectant Residual

Year	Disinfectant Type	Average Level	Min. Level	Max. Level	MRDL	MRDLG	Units	Source Of Chemical
2014	Chlorine Residual (chloramines)	2.76	0.30	4.80	4.0	<4.0	ppm	Disinfectant used to control microbes
2014	Chlorine Dioxide	0.01	0	0.22	0.8	0.8	ppm	Disinfectant
2014	Chlorite	0.1	0	0.32	1.0	N/A	ppm	Disinfectant

Total Organic Carbon

Collection Date		Highest Level Detected	Range of Levels	Units	Likely Source of Contamination
2014	Source Water	6.43	5.98-6.43	ppm	Naturally present in the environment
2014	Drinking Water	4.2	3.4-4.2	ppm	Naturally present in the environment
2014	Removal Ratio	44.2%	31.9-44.2	% removal	N/A

Total Organic Carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfection by-products. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. By-products of disinfection include trihalomethane (THM) and haloacetic acids (HAA) which are reported elsewhere in this report.
*Removal Ratio is the percent TOC removed by the treatment process divided by the percent of TOC required by TCEQ to removed.

Cryptosporidium and Giardia

Collection Date	Contaminants	Highest Level Detected	Range of Levels	Units	Likely Source of Contamination
2014	Cryptosporidium	0	0-0	(Oo) Cysts/L	Human and animal fecal waste
2014	Giardia	0	0-0	(Oo) Cysts/L	Human and animal fecal waste

Note: Taken on samples of raw water

Unregulated Contaminants

Collection Date	Contaminants	Highest Level Detected	Range of Levels	Units	Likely Source of Contamination
2014	Chloroform	17.5	17.5-17.5	ppb	By-product of drinking water disinfection
2014	Bromoform	1.8	1.8-1.8	ppb	By-product of drinking water disinfection
2014	Bromodichloromethane	15.9	15.9-15.9	ppb	By-product of drinking water disinfection
2014	Dibromochloromethane	8.6	8.6-8.6	ppb	By-product of drinking water disinfection

Note: Bromoform, Chloroform, dichlorobromomethane, and dibromochloromethane are disinfection by-products. There is no maximum contaminant level for these chemicals at the entry point to distribution.

Secondary and Other Constituents Not Regulated

Collection Date	Contaminants	Highest Level Detected	Range of Levels	Units	Likely Source of Contamination
2014	Bicarbonate	70	70-70	ppm	Corrosion of carbonate rocks such as limestone
2014	Calcium	36.2	36.2-36.2	ppm	Abundant naturally occurring element
2014	Chloride	13.6	13.6-13.6	ppm	Abundant naturally occurring element, used in water purification; by-product of oil field activity
2014	Hardness as Ca/Mg	84.5	26.4-84.5	ppm	Naturally occurring calcium and magnesium
2014	Iron	0.046	.046-.046	ppm	Erosion of natural deposits; iron or steel water delivery equipment or facilities
2014	Magnesium	3.57	3.57-3.57	ppm	Abundant naturally occurring element
2014	Manganese	0.004	.004-.004	ppm	Abundant naturally occurring element
2014	Nickel	0.001	.001-.001	ppm	Erosion of natural deposits
2014	pH	8.3	8.3-8.3	ppm	Measure of corrosivity of water.
2014	Sodium	17.8	17.8-17.8	ppm	Erosion of natural deposits; by-product of oil field activity
2014	Sulfate	53.2	53.2-53.2	ppm	Naturally occurring; common industrial by-product of oil field activity
2014	Total Alkalinity as CaCO3	70	70-70	ppm	Naturally occurring soluble mineral salts
2014	Total Dissolved Solids	190	190-190	ppm	Total dissolved mineral constituents in water
2014	Total Hardness as CaCO3	105	105-105	ppm	Naturally occurring calcium
2014	Zinc	0.002	.002-.002	ppm	Moderately abundant naturally occurring element used in the metal industry

Interesting topics: Did you know?

- **Americans alone spent more than $7 billion on bottled water at an average cost of more than $1 a bottle.**
- **That same $1 buys approximately 250 gallons of drinking water from the tap.**
- **An estimated 25 percent or more of bottled water is really just tap water in a bottle—sometimes further treated, sometimes not.**
- **While municipal water systems must test for harmful microbiological content in water several times a day, bottled water companies are required to test for these microbes only once a week**

Source: http://www.allaboutwater.org/references_b.html

Building A Better Community