



2015 Annual Drinking Water Quality Report Consumer Confidence Report (CCR)

CITY OF RIVER OAKS, TEXAS

4900 RIVER OAKS BLVD.
RIVER OAKS, TEXAS 76114
817-626-5421 Ext. 324
PWS ID NUMBER: TX2200069

Annual Water Quality Report for the period of January 1 to December 31, 2015

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. **For more information contact: Marvin Gregory @ 817-626-5421, extension 324.**

EN ESPANOL

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono Lourdes Torres al tel. 817-626-5421 ext 315.

PUBLIC PARTICIPATION OPPORTUNITIES

City Council Meetings: 2nd & 4th Tuesdays each month except for the month of December at 7:00 P.M. in the City Council Chambers located at 4900 River Oaks Blvd. in River Oaks, Texas. To learn more about future meetings (concerning your drinking water), or to schedule one, please call us at 817-626-5421, ext. 324. You can also sign up for email notifications on line at www.riveroakstx.com.

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 pickup 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 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 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 cause taste, color and 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 at 817-626-5421.

You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly, or immunocomprised 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 at (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

A Source Water Susceptibility for your drinking water source(s) is currently being updated by the Texas Commission on Environmental Quality. This information describes 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 the assessment allows us to focus source water protection strategies. For more information about sources of water, please refer to the Source Water Assessment Viewer available at the following URL: <http://gis3.tceq.state.tx.us/swav/Comptroller/index.jsp?wtrsec=>. Further details about sources and source-water assessments are available in Drinking Water Watch at the following URL: <http://dww.tceq.texas.gov/DWW>.

Source Water Name	Type of Water	Report Status	Location
Lake Worth	Surface Water	High	SWTP/1900 Nancy Ln.

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.

Maximum Contaminant Level Goal or (MCLG): 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.

Maximum Residual Disinfectant Level or (MRDL): 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.

Maximum Residual Disinfectant Level Goal or (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 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.

ppm: milligrams per liter or parts per million—or one ounce in 7,350 gallons of water.

ppt: parts per trillion, or nanograms per liter (ng/L) **ppq:** parts per quadrillion, or picograms per liter (pg/L)

REGULATED CONTAMINANTS

Total Organic Carbon

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set, unless TOC violation is noted in violation section

Disinfections and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2015	46	10.9 - 158	No Goal for the total	60	ppb	No	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2015	113	11.6 - 258	No Goal for the total	80	ppb	Yes	By-product of drinking water disinfection.

INORGANIC CONTAMINANTS

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Antimony	2015	0.28	0.28 - 0.28	6	6	ppb	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; test addition
Arsenic	2015	1	0.81 - 0.81	0	10	ppb	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium	2015	0.061	0.061 - 0.061	2	2	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chromium	2015	1.1	1.1 - 1.1	100	100	ppb	No	Discharge from steel and pulp mills; Erosion of natural deposits.
Cyanide	2015	81.8	81.8 - 81.8	200	200	ppb	No	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
Fluoride	2015	0.2	0.204 - 0.204	4	4.0	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen)	2015	0.206	0.206 - 0.206	10	10	ppm	No	Runoff from fertilizer use; Leaching from Septic Tanks; sewage, Erosion of natural deposits

RADIOACTIVE CONTAMINANTS

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/Photon emitters	03/03/2010	4	4-4	0	50	pCi/L*	No	Decay of natural and man-made deposits

* EPA considers 50 pCi/L to be the level of concern for beta particles

2015 REGULATED CONTAMINANTS DETECTED

Disinfectant Residual Reporting

Year	Disinfectant	Average Level	Min Level	Max Level	MRDL	MRDLG	Unit of Measure	Source of Chemical
2015	Chloramines	1.87	0.5	4.0	4.0	<4.0	ppm	Disinfectant used to control microbes

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	8/27/2014	1.3	1.3	0.37	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	8/27/2014	0	15	3.9	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.

TURBIDITY

	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest Single Measurement	1 NTU	0.34 NTU	No	Soil Run Off
Lowest Monthly % meeting limit	0.3 NTU	100%	No	Soil Run Off

Information Statement: Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration.

COLIFORM BACTERIA

Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest No. of Positive	Fecal Coliform or E. Coli Maximum Contaminant Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely source of contamination
0	1 positive monthly sample	2		0	Yes	Naturally present in environment

VIOLATIONS TABLE

TOTAL COLIFORM

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

Violation Type	Violation Begin	Violation End	Violation Explanation
MCL (TCR), MONTHLY	08/01/2015	08/31/2015	Total Coliform Bacteria were found in our drinking water during the period indicated in enough samples to violate a standard.

STEPS TO CORRECT VIOLATION

Please be advised that the River Oaks Water Department conducted repeat sampling pursuant to T.C.E.Q. Rules and Regulations and all repeat samples tested negative for total coliform and E-coli. With the retake samples testing good, the River Oaks Water System continues to be able to ensure all of its customers that the water provided by this system is safe to drink.

TOTAL TRIHALOMETHANES (TTHM)

Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys or central nervous system, and may have an increased risk of getting cancer.

Violation Type	Violation Begin	Violation End	Violation Explanation
MCL, LRAA	10/01/2015	12/31/2015	Water samples showed that the amount of this contaminant in our drinking water was above its standard (called a maximum contaminant level and abbreviated MCL) for the period indicated.

STEPS TO CORRECT VIOLATION

Beginning on November 9, 2015 the water department commenced with a 30-day process known as de-nitrification, commonly known as a free chlorine burn that will increase the free chlorine residual throughout the water distribution system. The process is designed to remove the bio-film from the mains due to chloramine disinfection and once completed helps to improve water quality.

EMERGENCY CONNECTION WITH CITY OF FORT WORTH

River Oaks has a contract for Emergency Water purchases with the City of Fort Worth, and only uses water during water emergencies. If you have any questions about the data provided below, please call Stacy Walters, regulatory/environmental administrator at 817-392-8203.

Source of Water	Length of time Used	Gallons Used	Explanation
Ft. Worth Water Dept	38 days	29,800,000	Water Plant Renovations

Fort Worth Water Quality Data for 2012

Contaminant	Measure	MCL	2015 Level	Range of Detects	MCLG	Common Sources of Substance
Gross Beta Particles Photon Emitters	pCi/L	50	5.6	4 to 5.6	N/A	Decay of natural & man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation
Radium 226/228	pCi/L	5	1	1 to 1	0	Erosion of natural deposits
Arsenic	ppb	10	1.70	0.96 to 1.70	0	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Antimony	ppb	6	0.21	0 to 0.21	6	Discharge from petroleum refineries, fire retardants, ceramics, electronics, solder, test addition
Barium	ppm	2	0.71	0.05 to 0.07	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (Total)	ppb	100	1	0.87 to 1	100	Discharge from steel & pulp mills, erosion of natural deposits
Cyanide	ppb	200	145	13.4 to 145	200	Discharge from plastic & fertilizer factories; discharge from fertilizer & aluminum factories
Fluoride	ppm	4	0.56	0.12 to 0.56	4	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen)	ppm	10	0.67	0.2 to 0.67	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Nitrite (measured as Nitrogen)	ppm	1	0.04	0 to 0.04	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Bromate	ppb	10	6.22	0 to 6.22	0	By-product of drinking water disinfection
Haloacetic Acids	ppb	60	15.6	8.8 to 15.6	N/A	By-product of drinking water disinfection
Total Trihalomethanes	ppb	80	27.8	12.4 to 27.8	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 2% of monthly samples	0 to 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 wastes
Turbidity ²	NTU	TT	0.50 Highest single result 98.9% Lowest monthly % of samples ≤ 0.3 NTU	N/A	N/A	Soil Runoff

Contaminant	Measure	MRDL	2015 Level	Range of detects	MRDLG	Common Sources of Substance
Chloramines	ppm	4	0.5	0.5 to 0.5		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

- ◆ **TT-Treatment Technique:** a required process intended to reduce the level of a contaminant in drinking water.
- ◆ **Total Organic Carbon** 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.

MANDATORY LANGUAGE FOR A MAXIMUM CONTAMINANT LEVEL VIOLATION MCL, LRAA/TTHM

June 30, 2016

The Texas Commission on Environmental Quality (TCEQ) has notified the CITY OF RIVER OAKS (2200069) that the drinking water being supplied to customers had exceeded the Maximum Contaminant Level (MCL) for total trihalomethanes. The U.S. Environmental Protection Agency (U.S. EPA) has established the MCL for total trihalomethanes to be 0.080 milligrams per liter (mg/L) based on locational running annual average (LRAA), and has determined that it is a health concern at levels above the MCL. Analysis of drinking water in your community for total trihalomethanes indicates a compliance value in quarter two 2016 of 0.157 mg/L for DBP2-01 and 0.139 mg/L for DBP2-02.

Trihalomethanes (TTHM) are a group of volatile organic compounds that are formed when chlorine, added to the water during the treatment process for disinfection, reacts with the naturally-occurring organic matter in the water. Some people who drink water containing Trihalomethanes in excess of the MCL **over many years** may experience problems with their liver, kidney or central nervous systems, and may have an increased risk of getting cancer. You do not need to use an alternative water supply. However, if you have health concerns, you may want to talk to your doctor to get more information about how this may affect you.

We are taking the following actions to address this issue: The city recently renovated the air diffuser system located in the Clearwell at the Water Plant designed to break up the disinfection byproducts and vent them to the atmosphere before pumping to the distribution system. In the Engineer's opinion this renovation alone will greatly reduce the high levels. Engineer recommended that the city also do extensive flushing of the entire water distribution system in order to discharge the high TTHM levels. Lastly, the city has requested assistance from the TCEQ in addressing maximum contaminant level exceedances for total trihalomethanes (TTHM).

Please share this information with all people who drink this water, especially those that may not have received this notice directly (i.e. people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail. If you have any questions concerning this notice, you may contact **Marvin Gregory at 817-626-5421, extension 324**. This Notice is also available in Spanish. For more information please contact Lourdes Torres at 817-626-5421, extension 315. *Este aviso también está disponible en español. Para obtener más información, póngase en contacto con Lourdes Torres al 817-626-5421, extensión 315.*

MANDATORY LANGUAGE FOR A MAXIMUM CONTAMINANT LEVEL VIOLATION MCL, LRAA/TOTAL HALOACETIC ACIDS (HAA5)

June 30, 2016

The Texas Commission on Environmental Quality (TCEQ) has notified the CITY OF RIVER OAKS TX2200069 that the drinking water being supplied to customers had exceeded the Maximum Contaminant Level (MCL) for haloacetic acids (group of five). The U.S. Environmental Protection Agency (U.S. EPA) has established the MCL for haloacetic acids (group of five) to be 0.060 milligrams per liter (mg/L) based on locational running annual average (LRAA), and has determined that it is a health concern at levels above the MCL. Analysis of drinking water in your community for haloacetic acids (group of five) indicates a compliance value in quarter two 2016 of 0.079 mg/L for DBP2-01 and 0.106 mg/L for DBP2-02.

Haloacetic Acids are a group of volatile organic compounds that are formed when chlorine, added to the water during the treatment process for disinfection, reacts with the naturally-occurring organic matter in the water. Some people who drink water containing HAA5 in excess of the MCL over many years may have an increased risk of getting cancer. You do not need to use an alternative water supply. However, if you have health concerns, you may want to talk to your doctor to get more information about how this may affect you.

We are taking the following actions to address this issue: The city recently renovated the air diffuser system located in the Clearwell at the Water Plant designed to break up the disinfection byproducts and vent them to the atmosphere before pumping to the distribution system. In the Engineer's opinion this renovation alone will greatly reduce the high levels. Engineer recommended that the city also do extensive flushing of the entire water distribution system in order to discharge the high HAA5 levels. Lastly, the city has requested assistance from the TCEQ in addressing maximum contaminant level exceedances for haloacetic acids (HAA5).

Please share this information with all people who drink this water, especially those that may not have received this notice directly (i.e. people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail. **If you have any questions concerning this matter, you may contact Marvin Gregory at 817-626-5421, extension 324**. This Notice is also available in Spanish. For more information please contact Lourdes Torres at 817-626-5421, extension 315. *Este aviso también está disponible en español. Para obtener más información, póngase en contacto con Lourdes Torres al 817-626-5421, extensión 315.*

Information about Secondary Contaminants

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

Microorganism Testing

Tarrant Regional Water District (TRWD) monitors the raw water at the River Oaks raw water intake at Lake Worth for *Cryptosporidium*, *Giardia Lambia* and viruses. The source is human and animal fecal waste in the watershed. No viruses were detected. The *Cryptosporidium* testing methods cannot determine if the parasite is dead and inactive or alive and capable of causing cryptosporidiosis. This is an abdominal infection that causes nausea, diarrhea and abdominal cramps after indigestion. **The drinking water treatment process is designed to remove *Cryptosporidium*, *Giardia Lambia* through filtration.** For more information contact the River Oaks Water Plant at 817-626-6454.

Your 2015 Drinking Water Quality Report

This report details where your water comes from, what it contains and how that it compares with regulatory standards. We want you to know this information so you will be able to understand and support the improvements necessary to maintain the highest drinking water standards.

About This Report

This Water Quality Report, also known as "The Consumer Confidence Report" (CCR), is published to the public as mandated by the EPA as controlled by the Texas Commission on Environmental Quality (TCEQ). Our water system is under the regulations mandated by the "Surface Water Rule" for drinking water supply systems in the State of Texas.