



City of McKinney

WATER QUALITY REPORT 2019

Analysis of drinking water data collected for calendar year 2018

This report includes important information about drinking water.

Este reporte incluye Información importante sobre el agua para tomar.

Para asistencia en español, favor de llamar al teléfono 972-547-7550.

SAFE, HIGH QUALITY DRINKING WATER. RIGHT FROM YOUR TAP.



The City of McKinney's water system is rated "superior" by the Texas Commission on Environmental Quality (TCEQ) - TCEQ's highest rating - and meets or exceeds all state and federal drinking water requirements.

This water quality report provides information about the McKinney water system including source water, the levels of detected contaminants and compliance with drinking water rules. The analysis uses data collected in calendar year 2018 and the most recent U.S. Environmental Protection Agency (EPA) required tests.

Water quality is important to you, so it is important to us. The city remains committed to providing the community with safe drinking water by having no violations in contaminant levels or water quality standards.

Water Utilities is a division of the Public Works Department, and is a municipal water distribution and wastewater collection utility owned by the City of McKinney. Wholesale treated water is purchased from North Texas Municipal Water District (NTMWD) and delivered to the city's ground storage tanks. For more information, contact the Water Utilities Division at 972-547-7360 Monday-Friday from 7 a.m.-5 p.m.



www.McKinneyTexas.org

WHERE DO WE GET OUR DRINKING WATER?

The source of drinking water used by the City of McKinney is purchased surface water from the NTMWD. Five surface water supply sources make up the NTMWD reservoir system that supplies the city's treated drinking water. The primary source is Lavon Lake with additional sources that include: Jim Chapman Lake, Lake Texoma, Lake Tawakoni, and the East Fork Raw Water Supply Project (Wetland). To contact NTMWD, call 972-442-5405.

ALL DRINKING WATER MAY CONTAIN CONTAMINANTS

The sources of drinking water - including both tap and bottled water - are 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 EPA 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.

SECONDARY CONSTITUENTS

Many constituents such as calcium, sodium or iron are often found in drinking water and 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 EPA. These constituents are not causes for health concerns. Therefore, secondary constituents are not required to be reported in this document, but they may greatly affect the appearance and taste of your water.

TASTE AND ODOR PROBLEMS

Each summer, throughout the months of July and August, lakes and other surface water supplies experience a natural algae bloom. Algae blooms are common to surface water supplies in warm climate states like Texas. The algae blooms are responsible for the grassy, earthy taste and smell that may occur during the hot and dry season. The blue-green algae species Nostoc and Anabaena as it reproduces, or “blooms,” releases an oily organic substance responsible for the taste and odor changes to the water during the summer months. The algae blooms, although aesthetically undesirable to the consumer, do not alter the high quality of treated water supplies delivered to the City of McKinney by NTMWD.

The treated water supply remains safe with no health hazards created by algae blooms. Through daily monitoring by NTMWD, laboratory personnel can determine the onset of an algae bloom. When an increase in number of algae develops, additional procedures are taken to reduce the organic residue during the treatment process.

CRYPTOSPORIDIUM

North Texas Municipal Water District has tested for Cryptosporidium in both the lake water and treated water for several years. Cryptosporidium has been absent in all the samples tested. Cryptosporidium is a microscopic parasite affecting the digestive tracts of humans and animals. No specific drug therapy has proven to affect Cryptosporidium, but people with healthy immune systems usually recover within two weeks. NTMWD continues to diligently test both the lake water and treated water for the presence of Cryptosporidium.

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. Additional guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the EPA Safe Drinking Water Hotline at 800-426-4791.

CHLORAMINES

North Texas Municipal Water District uses Chloramines for disinfection purposes. The benefit of using Chloramines is to reduce the levels of disinfection byproducts in the system, while still providing protection from waterborne disease.


The use of Chloramines can cause problems to persons dependent on dialysis machines. A condition known as hemolytic anemia can occur if the disinfectant is not completely removed from the water that is used for the dialysate. Consequently, the pretreatment scheme used for the dialysis units must include some means, such as a charcoal filter, for removing the Chloramine from the water used. Medical facilities should also determine if additional precautions are required for other medical equipment. In addition, Chloraminated water may be toxic to fish. If you have a fish tank, please make sure that the chemicals or filters that you are using are designed for use in water that has been treated with Chloramines. You may also need to change the type of filter that you use for fish tanks.

SOURCE WATER ASSESSMENT

The TCEQ has completed a Source Water Susceptibility Assessment for all drinking water systems that own their sources. The report 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 system from which the city purchases its water received the assessment report. For more information on source water assessments and protection efforts at the city's system contact NTMWD at 972-442-5405.

WATER LOSS

In the water loss audit submitted to the Texas Water Development Board for the time period of January - December 2018, our system reported an estimated loss of 19.79%. We have implemented repair and replacement programs to reduce the losses to a regional target goal of 12%. If you have questions about the water loss audit, please call City of McKinney Water Utilities Division at 972-547-7360.



LET'S SAVE WATER TOGETHER

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2019 DRINKING WATER QUALITY REPORT

(PWS #0430039 Consumer Confidence Report)

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

(Data collected for calendar year 2018)

INORGANIC CONTAMINANTS								
INORGANIC CONTAMINANTS	COLLECTION DATE	HIGHEST LEVEL DETECTED	RANGE OF LEVELS DETECTED	MCLG	MCL	UNITS	VIOLATION	LIKELY SOURCE OF CONTAMINATION
Antimony	2018	Levels lower than detect level	0 - 0.0	6	6	ppb	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; and test addition.
Arsenic	2018	Levels lower than detect level	0 - 0	0	10	ppb	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium	2018	0.68	0.058 - 0.068	2	2	ppm	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium	2018	Levels lower than detect level	0 - 0	100	100	ppb	No	Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride	2018	0.264	0 - 0.264	4	4	ppm	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen)	2018	0.448	0.407 - 0.448	10	10	ppm	No	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
Selenium	2018	Levels lower than detect level	0 - 0	50	50	ppb	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.

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								
RADIOACTIVE CONTAMINANTS	COLLECTION DATE	HIGHEST LEVEL DETECTED	RANGE OF LEVELS DETECTED	MCLG	MCL	UNITS	VIOLATION	LIKELY SOURCE OF CONTAMINATION
Beta/Photon emitters	2018	8.0	8.0 - 8.0	0	50	pCi/L	No	Decay of natural and man-made deposits.
Gross alpha excluding radon and uranium	2018	Levels lower than detect level	0 - 0	0	15	pCi/L	No	Erosion of natural deposits.

ORGANIC CONTAMINANTS								
ORGANIC CONTAMINANTS	COLLECTION DATE	HIGHEST LEVEL DETECTED	RANGE OF LEVELS DETECTED	MCLG	MCL	UNITS	VIOLATION	LIKELY SOURCE OF CONTAMINATION
Atrazine	2018	0.30	0.20 - 0.30	3	3	ppb	No	Runoff from herbicide used on row crops.
Di (2-ethylhexyl) adipate	2018	Levels lower than detect level	0 - 0	400	400	ppb	No	Discharge from chemical factories.
Simazine	2018	0.13	0 - .13	4	4	ppb	No	Runoff from herbicide used on row crops.

MAXIMUM RESIDUAL DISINFECTANT LEVEL								
CHEMICAL USED	YEAR	AVERAGE LEVEL OF QUARTERLY DATA	LOWEST RESULT OF SINGLE SAMPLE	HIGHEST RESULT OF SINGLE SAMPLE	MRDL	MRDLG	UNITS	SOURCE OF CHEMICAL
Chlorine Residual (Chloramines)	2018	2.6	.6	4.2	4.0	<4.0	ppm	Disinfectant used to control microbes.
Chlorine Dioxide	2018	0	0	0.00	0.8	0.8	ppm	Disinfectant.
Chlorite	2018	0.012	0	0.48	1.0	N/A	ppm	Disinfectant.

UNREGULATED CONTAMINANTS					
CONTAMINANTS	COLLECTION DATE	HIGHEST LEVEL DETECTED	RANGE OF LEVELS DETECTED	UNITS	LIKELY SOURCE OF CONTAMINATION
Chloroform	2018	11.10	5.90 - 11.10	ppb	By-product of drinking water disinfection.
Bromoform	2018	3.02	<1 - 3.02	ppb	By-product of drinking water disinfection.
Bromodichloromethane	2018	12.90	6.97 - 12.90	ppb	By-product of drinking water disinfection.
Dibromochloromethane	2018	9.57	4.74 - 9.57	ppb	By-product of drinking water disinfection.

Unregulated contaminants are those for which the 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 regulations are warranted.

LEAD AND COPPER							
LEAD AND COPPER	DATE SAMPLED	ACTION LEVEL (AL)	90TH PERCENTILE	UNITS	# SITES EXCEEDING AL	VIOLATION	LIKELY SOURCE OF CONTAMINATION
Copper	2018	1.3	0.62	ppm	0	No	Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems.
Lead	2018	15	1.9	ppb	0	No	Erosion of natural deposits, Corrosion of household plumbing systems;

Lead and copper tests are performed annually. ADDITIONAL HEALTH INFORMATION FOR LEAD: 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. City of McKinney 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 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>.

TURBIDITY					
	YEAR	LIMIT (TT)	LEVEL DETECTED	VIOLATION	LIKELY SOURCE OF CONTAMINATION
Highest single measurement	2018	1 NTU	0.45 NTU	No	Soil runoff.
Lowest monthly percentage (%) meeting limit	2018	0.3 NTU	99.10%	No	Soil runoff.

NOTE: Turbidity has no health effects and it 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.

DISINFECTANT BY-PRODUCTS								
DISINFECTION BY-PRODUCTS	COLLECTION DATE	HIGHEST LOCATIONAL RUNNING ANNUAL AVERAGE	RANGE OF LEVELS DETECTED	MCLG	MCL	UNITS	VIOLATION	LIKELY SOURCE OF CONTAMINATION
Total Haloacetic Acids (HAA5)	2018	27	4.9 - 24.4	No goal for the total	60	ppb	No	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2018	36	18.8 - 34.4	No goal for the total	80	ppb	No	By-product of drinking water disinfection.
Bromate	2018	Levels lower than detect level	0.0 - 0.0	5	10	ppb	No	By-product of drinking water ozonation.

NOTE: Haloacetic acids and trihalomethanes form as by-products of the chlorination process that is used to kill or inactivate disease-causing microbes. The TTHM and HAA5 results are from the eight locations which are monitored to determine compliance with current regulations.

TOTAL ORGANIC CARBON						
	COLLECTION DATE	HIGHEST LEVEL DETECTED	RANGE OF LEVELS DETECTED	UNITS	VIOLATION	LIKELY SOURCE OF CONTAMINATION
Source Water	2018	4.70	3.68 - 4.70	ppm	No	Naturally present in the environment.
Drinking Water	2018	3.00	1.85 - 3.00	ppm	No	Naturally present in the environment.
Removal Ratio	2018	54.4%	26.5 - 54.4	% removal *	No	N/A

NOTE: 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 trihalomethanes (THMs) and haloacetic acids (HAA) which are reported elsewhere in this report.

* Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCEQ to be removed.

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	5% of monthly	2.3	0	0	No	Naturally present in the environment.

NOTE: Reported monthly tests found no fecal coliform bacteria. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present.

DEFINITIONS

Maximum Contaminant Level (MCL) - 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.

Maximum Contaminant Level Goal (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 (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 (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 contamination.

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

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

ABBREVIATIONS

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

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) - or one ounce in 7,350 gallons of water

ppb - parts per billion, micrograms per liter (ug/l) - or one ounce in 7,350,000 gallons of water

ppt - parts per trillion, or nanograms per liter

ppq - parts per quadrillion, or picograms per liter

PUBLIC PARTICIPATION IS WELCOME

City of McKinney:

The McKinney City Council meets the first and third Tuesday of the month at 6 p.m. in City Hall Council Chambers, 222 N. Tennessee St. Council meetings are open to the public with opportunities for residents to comment publicly on any city related subject at the beginning or end of each meeting. Visit www.McKinneyTexas.org/CityCouncil for more information.

- For questions or concerns about water quality, this report or water conservation, contact Water Utilities at 972-547-7360 or visit www.McKinneyTexas.org/Water
- For questions regarding your water bill, contact Utility Billing at 972-547-7550 or visit www.McKinneyTexas.org/WaterBilling

North Texas Municipal Water District:

NTMWD Board of Directors meetings are held on the fourth Thursday of each month with adjustments made for holidays or other conflicts. Visit www.ntmwd.com or call 972-442-5405 for a schedule of Board of Directors meetings.

Other helpful phone numbers:

U.S. EPA Safe Drinking Water Hotline: 1-800-426-4791

CITY OF MCKINNEY



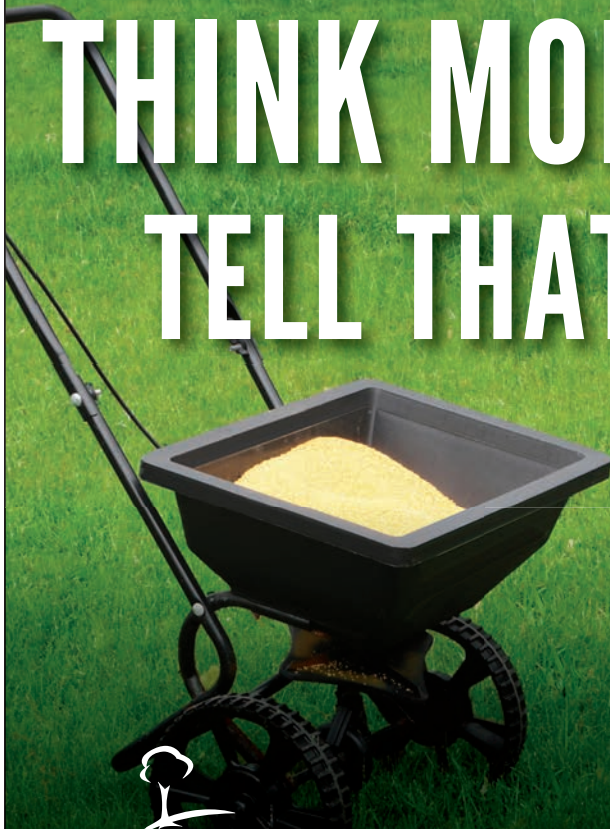
LANDSCAPE WATER MANAGEMENT PLAN

Water on your residential trash day and three days later if needed.

No watering between 10 a.m. and 6 p.m.
April 1 - Oct. 31

www.McKinneyTexas.org/OutdoorWaterUse

THINK MORE IS BETTER? TELL THAT TO THE FISH.



Fertilizers contain nutrients that can pollute our water when carried into the street and eventually our stormwater system by rain, overwatering or wind. Help keep our creeks, streams and lakes clean and “Keep it on the Lawn”.



Stormwater Management Program
972-547-7579 • stormwater@mckinneytexas.org