



2021 Mansfield Water Quality Report

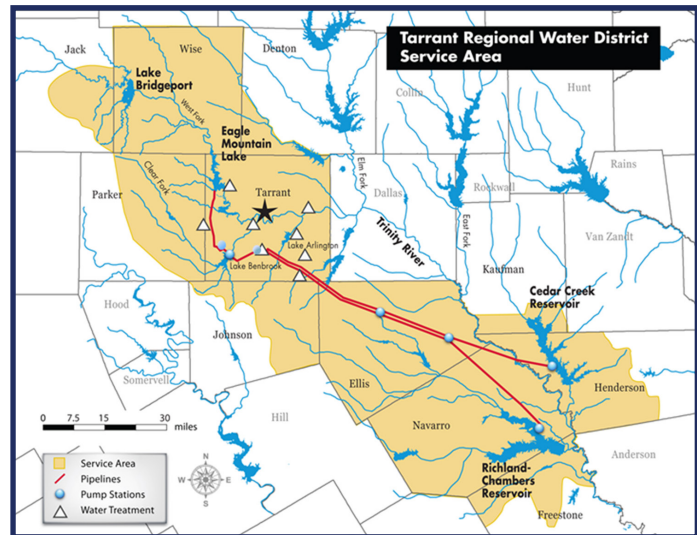


Where Does our Water Come From?

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.

The City of Mansfield purchases surface water from the Tarrant Regional Water District (TRWD). TRWD pumps water primarily from Cedar Creek and Richland Chambers Reservoirs in the east and Lake Benbrook in the west. A Source Water Susceptibility Assessment for your drinking water source(s) was last updated by the Texas Commission on Environmental Quality (TCEQ) in the year 2007. 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 your source(s) of water please refer to the TCEQ [Source Water Assessment & Protection Viewer](#). Further details about sources and source water assessments are available in the TCEQ [Drinking Water Watch](#).



Health Information for Special Populations

You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Among those who could be at risk from infections: 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. You should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline (800-426-4791).

2021 Water Quality Report - City of Mansfield TX2200018

Annual Water Quality Report for the period January 1 to December 31, 2021. 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.

The TCEQ completed an assessment of your source water and results indicate that our sources have a potentially high susceptibility to contaminants. A high susceptibility means there are activities near the source water and the natural conditions of the aquifer 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. The sampling requirements for your water system are based on this susceptibility and previous sample data. Any detections of these contaminants may be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts at our system, contact David Hinshaw, Treatment Plant Manager, 817-728-3674

INORGANIC CONTAMINANTS

Year	Contaminant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Unit of Measure	Violation	Likely Source of Contamination
2021	Cyanide	0.108	0.108 - 0.108	200	200	ppb	No	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
2021	Chromium	< 0.001	< 0.001 - < 0.001	100	100	ppb	No	Discharge from steel and pulp mills; Erosion of natural deposits.
2021	Barium	0.051	0.051 - 0.051	2	2	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
2021	Fluoride	0.613	0.613 - .0613	4	4	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Runoff from fertilizer and aluminum factories.
2021	Nitrate (measured as Nitrogen)	0.362	0.362 - 0.362	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
2021	Thallium	< 0.001	< 0.001 - < 0.001	0.5	2	ppm	No	Discharge from electronics, glass, and Leaching from ore-processing sites; drug factories.

SYNTHETIC ORGANIC CONTAMINANTS INCLUDING PESTICIDES & HERBICIDES

Year	Contaminant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Unit of Measure	Violation	Likely Source of Contaminant
2021	Atrazine	0.2	0.2 - 0.2	3	3	ppb	No	Runoff from herbicide used on row crops.

ORGANIC CONTAMINANTS

Year	Contaminant	Average Level	Minimum Level	Maximum Level	MRD L	MRDLG	Unit of Measure	Source of Contaminant
2021	Chloramines	3.51	3.36	4	4	< 4	ppm	Water additive used to control microbes.

DISINFECTION BYPRODUCTS

Year	Contaminant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Unit of Measure	Violation	Likely Source of Contamination
2021	Haloacetic Acids (HAA5)*	21.2	5.9 - 21.2	No goal for this total	60	ppb	No	Byproduct of drinking water disinfection.
2021	Total Trihalomethanes (TTHM)*	40.5	18.9 - 40.5	No goal for this total	80	ppb	No	Byproduct of drinking water disinfection.
2021	Chlorite	0.20	0.00 - 0.20	0.8	1.0	ppm	No	Byproduct of drinking water disinfection.

*The value in the Highest Level or Average Detected column is the highest average of all HAA5/TTHM sample results collected at a location over a year.

UNREGULATED CONTAMINANTS

Year	Contaminant	Average	Minimum	Maximum		Unit of Measure	Violation	Likely Source of Contamination
2021	Chloroform*	12.4	5.04	21.8		ppb	No	Byproduct from drinking water disinfection.
2021	Bromoform*	1.19	<1.000	1.40		ppb	No	Byproduct from drinking water disinfection.
2021	Bromodichloromethane*	11.1	6.84	13.7		ppb	No	Byproduct from drinking water disinfection.
2021	Dibromochloromethane*	6.86	5.18	8.90		ppb	No	Byproduct from drinking water disinfection.

Unregulated contaminants are those for which 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 regulation is warranted.

*Individual compound of the Total Trihalomethanes (TTHM)

LEAD & COPPER (1)

Year	Contaminant	The 90th Percentile	Number of sites exceeding action level	Action Level (AL)	MCLG	Unit of Measure	Violation	Likely Source of Contamination
2021	Lead	1.02	0	15	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposit.
2021	Copper	0.147	0	1.3	1.3	ppm	No	Corrosion of household plumbing systems; Erosion of natural deposit; Leaching from wood preservatives.

To meet federal compliance rules, Mansfield samples 30 homes every three years for lead and copper. Compliance sampling was last performed in 2021. Mansfield achieves corrosion control through pH adjustment.

SECONDARY CONSTITUENTS (2)							
Year	Contaminant	Average Level	Minimum Level	Maximum Level	Secondary Limit	Unit of Measure	Likely Source of Contamination
2021	Bicarbonate	99.3	99.3	99.3	NA	ppm	Corrosion of carbonate rocks such as limestone.
2021	Chloride	22.1	22.1	22.1	300	ppm	Abundant naturally occurring element; Used in water purification.
2021	Hardness as Ca/Mg	102	102	102	NA	ppm	Naturally occurring calcium and magnesium.
2021	pH	8.21	7.89	8.68	> 7.0	units	Measure of corrosivity of water.
2021	Sodium	21.7	21.7	21.7	NA	ppm	Erosion of natural deposits; Byproduct of oil field activity.
2021	Sulfate	25.5	25.5	25.5	300	ppm	Naturally occurring; Common industrial byproduct; Byproduct of oil field activity.
2021	Total Alkalinity as CaCO ₃	99.3	99.3	99.3	NA	ppm	Naturally occurring soluble mineral salts.
2021	Total Dissolved Solids	177	177	177	1000	ppm	Total dissolved mineral constituents in water.

COLIFORM BACTERIA (3)							
Year	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
2021	0	5% of monthly samples are positive.	2.5%	0	0	No	Naturally present in the environment.

RADIOACTIVE CONTAMINANTS								
Year	Contaminant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Unit of Measure	Violation	Likely Source of Contamination
2017+	Beta/photon emitters	4.6	4.6 - 4.6	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.
†Because Mansfield historically has had low levels of radionuclides in its water, TCEQ requires this monitoring occur only once every six years. The test results shown above are from 2017. The next monitoring will occur in 2023.

TURBIDITY (4)						
Year		Limit (Treatment Technique)	Level Detected	Unit of Measure	Violation	Likely Source of Contamination
2021	Highest single measurement	1 NTU	0.51	NTU	No	Soil runoff.
2021	Lowest monthly % meeting limit	0.3 NTU	100%	NTU	No	Soil runoff.

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 system and disinfectants.

TOTAL ORGANIC CARBON (5)								
Year	Contaminant	Average Level	Minimum Level	Maximum Level	TT*	Violation	Unit of Measure	Likely Source of Contamination
2021	Removal Ratio	1.34	1.06	2.18	≥ 1	No	%	Naturally occurring.

Mansfield was in compliance with all monitoring and treatment technique requirements for disinfection by-product precursors. A removal ratio of ≥ 1 in TOC calculations is considered passing.
*Treatment Technique (TT): a required process intended to reduce the level of a contaminant in drinking water

(1) 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 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, test methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead. (2) 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 EPA. These constituents are not causes for health concerns. Therefore, secondary's are not required to be reported in this document but they may greatly affect the appearance and taste of your water. (3) Total coliform bacteria are used as indicators of microbial contamination of drinking water because they are easily detected in water samples and they are found in the digestive tract of warm-blooded animals. While coliforms are not disease producers, they are often found in association with other microbes that are capable of causing disease. Coliform bacteria are harder than many disease-causing organisms; therefore their absence from water is a good indication that the water is bacteriologically safe for human consumption. Fecal coliform bacteria, in particular E-Coli, are a portion of the coliform bacteria group originating in the intestinal tract of warm-blooded animals and are passed into the environment through feces. The presence of fecal coliform in drinking water may indicate recent contamination of the drinking water supply with fecal material. The following table indicates whether total coliform or fecal coliform bacteria were found in the monthly drinking water samples submitted for testing by your water supplier last year. (4) Turbidity is a measurement of the cloudiness of the water caused by suspended solids. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration. 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. (5) Total Organic Carbon (TOC) has no health effects. It is used to determine disinfection by-product precursors. A removal ratio of ≥ 1 in TOC calculations is considered passing. The disinfectant can combine with TOC to form disinfection byproducts. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. Byproducts of disinfection include

Water Contaminants

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 may be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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 septic systems.
- 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 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 817-728-3674.

Water Loss Statement

Mansfield Water Utilities monitors water loss in an effort to improve operational efficiencies in both the water treatment plant and the water distribution system. During the period of January - December, 2021, Mansfield Water Utilities reported a loss of 582,947,304 gallons of water. This is estimated at 10.4 percent of total water purchased.

Utilities incur real water losses from pipeline leaks, and apparent losses customer water consumption is incorrectly measured or billed. The winter storm of 2021 is an example of real water loss as we experienced 3x our average water flow during that period. We also experience apparent losses when water meters begin declining with age, and water consumption is registered than actually consumed.



Water Quality FAQ

What causes taste and odor in my drinking water?

Hot South Texas summer weather results in a rapid algae growth in our surface water reservoirs. As the algae decay, they release taste and odor compounds. The Mansfield Water Treatment Plant replaced the anthracite coal filter media with GAC (Granulated Activated Carbon) in the plant expansion of 1999. As a result, the tastes and odor nuisance was greatly reduced. However, there are times of the year when the algae growths can exceed the GAC's ability to remove the tastes and odors completely. In as much as the problem of taste and odor may be apparent in the water, the water is safe to drink.

Is my water safer with water purification devices?

Water from the City of Mansfield is safe to drink. We recognize it is your personal choice to purchase water purification devices. They have been known to cause problems in the quality of drinking water due to the lack of proper filtration replacement. These devices are not tested or regulated by the state or federal government.

Do we have hard water?

Hard water is defined by the amount of calcium and magnesium present in the water. Hard water has a relatively high level as compared to soft water which has a low level. Actually our water is not classified as hard or soft. It is medium (hard) and normally has a between 90 to 120 mg/l, or in other terms about 5 to 7 grains of hardness.

Why does my water seem cloudy?

Water that is cloudy is often the result of air in the water. To verify the cloudy water is caused by air, fill a clear glass with water from your faucet. Watch the glass closely. If the glass gets clear from the bottom to the top after a few minutes then there is air in the water. While the quality of water is not affected by presence of air, it could be indicative of a problem in the distribution system. Excessive air in your water should be reported to the Bud Ervin Water Treatment Plant by calling 817-728-3674 or via email at bewtp@mansfieldtexas.gov.

What is causing the stain on my plumbing fixtures?

Iron and manganese can cause a brownish orange staining on plumbing fixtures. The level of iron and manganese in our raw water is enough to cause staining problems. Since December 2003 Mansfield has been using Chlorine Dioxide to reduce iron and manganese.



Definitions and Abbreviations

MCL – Maximum Contaminant Level

The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

MCLG – Maximum Contaminant Level Goal

The Level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

MFL – Million fibers per liter

A measure of asbestos.

MRDL – Maximum Residual Disinfectant Level

The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is a 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. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

N/A – Not Applicable

NTU – Nephelometric Turbidity Units This is used to measure water turbidity (clarity).

AL – Action Level

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

pCi/L – Picocuries Per Liter

This is a measure of radioactivity in water.

ppb – Parts Per Billion

Equivalent to one microgram per liter- or one ounce in 7,350,000 gallons of water.

ppm – Parts Per Million

Equivalent to one milligram per liter- or one ounce in 7,350 gallons of water.

Contact Information:

Water Quality Questions:

Contact David Hinshaw, Treatment Plant Manager at 817-728-3674, or email at david.hinshaw@mansfieldtexas.gov

Questions bout your water service or utility bill:

Contact Utility Billing Customer Service at 817-276-4230, or email at billingdepartment@mansfieldtexas.gov

Opportunities for public participation in decisions that may affect the quality of water occur the second and fourth Monday of every month during City Council meetings at 7 p.m. at City Hall, 1200 E. Broad St.