

# ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2020

***Presented By***



CITY OF \_\_\_\_\_  
MURPHY

LIFE LIVED AT YOUR PACE



## Quality First

Once again, we are pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2020. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

## Where Does My Water Come From?

The City of Murphy and 60 other North Texas communities receive drinking water from the North Texas Municipal Water District (NTMWD). More than 1.6 million citizens rely on the treated water supply provided by the NTMWD. Murphy's water is mainly from Lake Lavon. The NTMWD Water Treatment Plants are in Wylie, Texas. These treatment facilities provide billions of gallons of clean drinking water every year to their area customers like the City of Murphy. Lavon Lake serves as the NTMWD's main raw water supply source, with the NTMWD holding water rights in the reservoir. Lavon Lake also serves as a terminal reservoir for additional supplies that are transferred to the reservoir to augment supplies from Lake Texoma, Jim Chapman Lake, Lake Bonham, and the East Fork Wetland Project. Additional supplies are available through a contract with the SRA, providing for water transfer to Lavon Lake from Lake Tawakoni and from a contract with the Greater Texoma Utility Authority for additional supplies from Lake Texoma.

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## Source Water Assessment

The TCEQ has completed a Source Water Susceptibility report for all drinking water systems that own their sources. This report describes the susceptibility and types of constituents that might come into contact with the drinking water source based on human activities and natural conditions. The system(s) from which we purchase our water received the assessment report. For more information on source water assessments and protection efforts at our system, contact North Texas Municipal Water District at 501 East Brown Street, Wylie, Texas 75098, or call (972) 442-5405.

## Water Loss Audit

In the water loss audit submitted to the Texas Water Development Board during the year covered by this report, our system lost an estimated 293,236,122 gallons of water. If you have any questions about the water loss audit, please call (972) 468-4000.

## Lead in Home Plumbing

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. This water supply is 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 at (800) 426-4791 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).



### Community Participation

You are invited to participate in our regular public forums and voice your concerns about your drinking water. The City Council meets the first and third Tuesdays of each month, beginning at 6 p.m., at City Hall, Council Chambers, 206 North Murphy Road, Murphy, Texas.

## Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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 can acquire naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

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 the taste, odor, or color of drinking water, please contact our business office. For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## Table Talk

Get the most out of the Testing Results data table with this simple suggestion. In less than a minute, you will know all there is to know about your water:

For each substance listed, compare the value in the Amount Detected column against the value in the MCL (or AL, SCL) column. If the Amount Detected value is smaller, your water meets the health and safety standards set for the substance.

### Other Table Information Worth Noting

Verify that there were no violations of the state and/or federal standards in the Violation column. If there was a violation, you will see a detailed description of the event in this report.

If there is an ND or a less-than symbol (<), that means that the substance was not detected (i.e., below the detectable limits of the testing equipment).

The Range column displays the lowest and highest sample readings. If there is an NA showing, that means that only a single sample was taken to test for the substance (assuming there is a reported value in the Amount Detected column).

If there is sufficient evidence to indicate from where the substance originates, it will be listed under Typical Source.

## Important Health Information

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.



## QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Customer Service at (972) 468-4100.



## Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. Also, the water we deliver must meet specific health standards. Here, we show only those substances that were detected in our water. (A complete list of all our analytical results is available upon request.) Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 4th stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminant Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Atrazine (ppb)	2020	3	3	0.2	0.2–0.2	No	Runoff from herbicide used on row crops
Barium (ppm)	2020	2	2	0.061	0.058–0.061	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/Photon Emitters <sup>1</sup> (pCi/L)	2018	50	0	8.0	8.0–8.0	No	Decay of natural and man-made deposits
Bromate (ppb)	2020	10	0	8.91	8.91–8.91	No	By-product of drinking water ozonation
Chloramines (ppm)	2020	[4]	[4]	3.6	0.9–3.6	No	Water additive used to control microbes
Chlorite (ppm)	2020	1	0.8	0.483	0–0.483	No	By-product of drinking water disinfection
Di(2-ethylhexyl) Phthalate (ppb)	2020	6	0	0.6	0.6–0.6	No	Discharge from rubber and chemical factories
Fluoride (ppm)	2020	4	4	0.225	0.218–0.225	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] (ppb)	2020	60	NA	24	14–32.2	No	By-product of drinking water disinfection
Nitrate (ppm)	2020	10	10	0.827	0.266–0.827	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Simazine (ppb)	2020	4	4	0.08	0.07–0.08	No	Herbicide runoff
TTHMs [Total Trihalomethanes] (ppb)	2020	80	NA	38	19.1–40.3	No	By-product of drinking water disinfection
Total Organic Carbon <sup>2</sup> (ppm)	2020	TT	NA	53.9	28.4–53.9	No	Naturally present in the environment
Turbidity <sup>3</sup> (NTU)	2020	TT	NA	1	0.3–1	No	Soil runoff
Tap water samples were collected for lead and copper analyses from sample sites throughout the community.							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2020	1.3	1.3	0.6	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2020	15	0	1.3	0/30	No	Lead services lines; Corrosion of household plumbing systems including fittings and fixtures; Erosion of natural deposits

## SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2020	300	NA	78.9	23.2–78.9	No	Abundant naturally occurring element; Used in water purification; By-product of oil field activity
Manganese (ppb)	2020	50	NA	17	12–17	No	Abundant naturally occurring element
pH (Units)	2020	> 7.0	NA	8.60	8.04–8.60	No	Measure of corrosivity of water
Sulfate (ppm)	2020	300	NA	158	42.0–158	No	Naturally occurring; Common industrial by-product; By-product of oil field activity
Total Dissolved Solids [TDS] <sup>4</sup> (ppm)	2020	1,000	NA	504	265–504	No	Runoff/leaching from natural deposits

## UNREGULATED SUBSTANCES<sup>5</sup>

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromodichloromethane (ppb)	2020	14.4	7.18–14.4	By-product of drinking water disinfection
Bromoform (ppb)	2020	3.28	>0 – 3.28	By-product of drinking water disinfection
Chloroform (ppb)	2020	11.8	5.95–11.8	By-product of drinking water disinfection
Dibromochloromethane (ppb)	2020	11.6	4.75–11.6	By-product of drinking water disinfection
Nickel (ppm)	2020	0.0068	0.0066–0.0068	Erosion of natural deposits
Sodium (ppm)	2020	68.5	62.7–68.54	Erosion of natural deposits; By-product of oil field activity

## UNREGULATED AND OTHER SUBSTANCES<sup>5</sup>

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Calcium (ppm)	2020	62.4	58.3–62.4	Abundant naturally occurring element
HAA6Br (ppb)	2020	21.202	13.385–21.202	By-product of drinking water disinfection
HAA9 (ppb)	2020	43.762	21.825–43.762	By-product of drinking water disinfection
Magnesium (ppm)	2020	9.40	8.83–9.40	Abundant naturally occurring element
Total Alkalinity [as CaCO <sub>3</sub> ] (ppm)	2020	107	72–107	Naturally occurring soluble mineral salts
Total Hardness [as CaCO <sub>3</sub> ] (ppm)	2020	207	106–207	Naturally occurring calcium

<sup>1</sup> The MCL for beta particles is 4 mrem/year. The U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

<sup>2</sup> 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 (HAAs), which are reported elsewhere in this table. The percentage of Total Organic Carbon (TOC) removal was measured each month, and the system met all TOC removal requirements set.

<sup>3</sup> Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of water quality and the effectiveness of disinfectants.

<sup>4</sup> Total dissolved mineral constituents in water

<sup>5</sup> Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of monitoring unregulated contaminants is to assist the EPA in determining their occurrence in drinking water and whether future regulation is warranted.

## Definitions

**90th %ile:** The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

**MCL (Maximum Contaminant Level):** 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.

**MCLG (Maximum Contaminant Level Goal):** 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.

**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 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. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**NA:** Not applicable

**ND (Not detected):** Indicates that the substance was not found by laboratory analysis.

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**pCi/L (picocuries per liter):** A measure of radioactivity.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**SCL (Secondary Contaminant Level):** These standards are developed to protect aesthetic qualities of drinking water and are not health based.

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