WATER QUALITY REPORT

City of San Marcos

January - December 2021

TX1050001

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. We hope this information helps you become more knowledgeable about what's in your drinking water. Please feel free to contact our Water Quality Section at (512) 393-8332 or (512) 393-8038 if you have any questions or would like to request a meeting regarding your drinking water. Este reporte incluye información importante sobre el agua para toma. Para assistencia en español, favor de llamar al telefono (512) 393-8038.

The City of San Marcos is recognized by the Texas Commission on Environmental Quality as a "*Superior Public Water System.*" This recognition is achieved by exceeding the minimum acceptable standards for operating a public water system and for the quality of the water.

FACTS ABOUT YOUR WATER SOURCES

The City of San Marcos Water/Wastewater Utilities' goal and responsibility is to provide you safe and reliable drinking water. Our drinking water is obtained from surface and ground water sources. Our ground water comes from the Edwards Aquifer (South BFZ) and our surface water comes from Canyon Lake.

The sources of drinking water (both tap and bottled) 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.

A Source Water Susceptibility Assessment for your drinking water source(s) has not been conducted by the Texas Commission on Environmental Quality. The report describes the susceptibility and the types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The information contained in this assessment allows us to focus our source water protection strategies.

FACTS (continued)

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's Safe Drinking Water Hotline at (800) 426-4791.

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.

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; 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. These people should seek advice about drinking water from their 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.

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 (512) 393-8010.

Contaminants that may be present in source water before treatment 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 the result of oil and gas production and mining activities.

INFORMATION ABOUT LEAD

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water primarily comes 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*.

KEY TERMS AND ABBREVIATIONS

AL: (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 of monthly samples.

Level 1 Assessment: A study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment: A detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

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.

N/A: Not applicable

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 or micrograms per liter): One ounce in 7,350,000 gallons of water, or 1 penny in 10 million dollars.

ppm (parts per million or milligrams per liter): One ounce in 7,350 gallons of water, or 1 penny in 10 thousand dollars.

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

PUBLIC PARTICIPATION

The Citizen Utility Advisory Board (CUAB) advises Council regarding business aspects of water and wastewater. Meetings are scheduled as needed. If you'd like to be notified of future meetings, sign up for e-Notify Me at www.sanmarcostx.gov. If you have a question, reach us by phone at (512) 393-8010 or visit us on the web at www.sanmarcostx.gov/water.

REGULATED CONTAMINANTS (Substances were sampled in 2021 unless specified beside name)

Inorganic Contaminants	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Violation	Unit of Measure	Likely Source of Contamination
Barium	0.0509	0.0419– 0.0509	2	2	No	ppm	Erosion of natural deposits; Discharge of drilling wastes; Discharge from metal refineries.
Fluoride	0.21	0.19– 0.21	4	4			Erosion of natural deposits; City discontinued adding fluoride in 2015.
Nitrate – measured as Nitrogen	2.02	1.27 – 2.02	10	10			Erosion of natural deposits; Runoff from fertilizer use; Leaching from septic tanks, sewage.
Radioactive Contaminants	**Highest Level Detected**	**Range of Levels Detected**	**MCLG**	**MCL**	**Violation**	**Unit of Measure**	**Likely Source of Contamination**
Combined Radium 226/228 (2017)	1.5	1.5-1.5	0	5	No	pCi/L	Erosion of natural deposits.

Turbidity	Limit (Treatment Technique)	Level Detected	Violation	Possible Source of Contaminant
Highest single measurement	1 NTU	0.28 NTU	No	Soil runoff.
Lowest monthly % meeting limit	0.3 NTU	100%		

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

Disinfection By-products	Highest Level Detected*	Range of Levels Detected	MCLG	MCL	Unit of Measure	Violation	Source of Contaminant
Chlorite	0.618	<0.02 -0.618	0.8	1.0	ppm	No	By-product of drinking water disinfection.
Total Haloacetic Acids (HAA5)*	13	<6.0 – 18.9	No goal for the total	60	ppb	No	
Total Trihalomethanes (TTHM)*	48	1.4 - 56.1	No goal for the total	80	ppb	No	

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

REGULATED CONTAMINANTS (continued)

Contaminant	MCLG	Action Level	90th Percentile Values	# Sites Over Action Level	Violation	Unit of Measure	Possible Source of Contaminant
Copper	1.3	1.3	0.168	0	No	ppm	Erosion of natural deposits; Corrosion of household plumbing systems.
Lead	0	15	1.91	0		ppb	Erosion of natural deposits; Corrosion of household plumbing systems.

Contaminant	Average Level	Range of Levels Detected	MRDLG	MRDL	Violation	Unit of Measure	Source of Contaminant
Disinfectant Residual	1.34	0.46 - 3.79	<4.0	4.0	No	ppm	Chlorine gas or Sodium hypochlorite used as a disinfectant to control microbes.

Contaminant	Total Coliform MCL	Highest Monthly % of Total Coliform Positive Samples	Total No. of Positive E-Coli or Fecal Coliform Samples	Violation	Source of Contaminant
Coliform Bacteria	5% of monthly samples are positive	1.4	0	No	Naturally present in the environment.

WATER HARDNESS

Substance	Average Level	Minimum Level	Maximum Level	MCL	Unit of Measure	Source of Substance
Total Hardness (as CaCO3)	16.8	16.0	17.6	N/A	gpg (grain per gallon)	Hard water is formed when water percolates through deposits of limestone and chalk which are largely made of calcium and magnesium carbonates. Hard water is not a health risk, but a nuisance because of mineral buildup on plumbing fixtures and poor soap and/or detergent performance.
	288	274	302	N/A	ppm	

VIOLATIONS

Disinfection Byproduct (DBP) - Chlorite

Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.

Violation Type	Violation Begin	Violation End	Violation Explanation
Monitoring, Routine (DBP) - Chlorite	02/1/2021	02/28/2021	The City failed to monitor for Chlorite in the distribution system during the on-site generation of Chlorine Dioxide at the treatment plant. The City conducted the required distribution monitoring while the on-site generation process was not in operation at the treatment plant. **Note: Although we cannot be sure of the quality of our drinking water during the period indicated, the City has never exceeded the MCL for Chlorite in the distribution system.**

UNREGULATED CONTAMINANTS

Note: Only contaminants listed in 30 TAC § 290.275(4) Appendix D that were detected in 2021 are listed in table below. These unregulated contaminants do not have an established MCL or MCLG.

Contaminant	Highest Level Detected (ppb)	Range of Levels Detected (ppb)
Chloroform*	11.7	<1—11.7
Bromodichloromethane*	15.8	<1—15.8
Bromoform*	10.1	<1—10.1
Chlorodibromomethane*	21.5	1.1—21.5

*** The sum of these four chemicals is referred to as Total Trihalomethanes (TTHMs). The most likely source is the by-product of water disinfection.**

The Unregulated Contaminant Monitoring Rule (UCMR) provides Environmental Protection Agency (EPA) and other interested parties with scientifically valid data on the occurrence of contaminants in drinking water. This national survey is one of the primary sources of information on occurrence and levels of exposure that EPA uses to develop regulatory decisions for contaminants in the public drinking water supply. In accordance with the Safe Drinking Water Act, EPA will consider the occurrence data from UCMR monitoring events and other sources, along with the peer reviewed health effects assessments, to support a regulatory determination on whether to initiate the process to develop a national primary drinking water regulation. ***Note: The following contaminants listed in table below were detected during the UCMR 4 monitoring event (2018-2020). These unregulated contaminant do not have an established MCL or MCLG.***

Contaminant	Highest Level Detected (ppb)	Range of Levels Detected (ppb)
HAA6Br	34.6	1.3—34.6
HAA9	44.1	1.3—44.1
Manganese	3.5	0.4—3.5
Bromide	114	94.4—114
Total Organic Carbon	1580	1090—1580

For more information regarding UCMR refer to: https://www.epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule

For most recent UCMR results refer to: https://www.sanmarcostx.gov/DocumentCenter/View/28495/UCMR4-Results-Summary?bidId=