

2021 Annual Drinking Water Quality Report

(Consumer Confidence Report)

Military Highway Water Supply Corporation
Las Rusias WTP System ID # 1080067

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The Safe Drinking Water Act requires us to prepare and deliver a Water Quality Report to you on an annual basis. This report is designed to inform you about the quality of water we deliver to you every day. It details where your water comes from, what it contains and how that compares with regulatory standards. Our ever constant goal is to provide you with a safe and dependable supply of drinking water. We want you to have the information found in the report so you will be able to understand and support the efforts needed to maintain the high standards required of drinking water. We are committed to ensuring the best quality of your drinking water. This report is based on data from the most recent US Environmental Protection Agency (EPA) required tests.

Este reporte incluye información importante sobre su agua de beber.

Para obtener una copia de éste reporte en Español, llámé a la oficina central al teléfono (956) 565-2491.

Military Highway Water Supply Corporation LAS RUSIAS obtains its water for this service area from a ground water source called the Gulf Coast Aquifer using wells located south of the City of Los Indios. These wells are classified as "under direct influence of surface water" and thus the ground water requires treatment at a surface water treatment plant. This treatment occurs at the Las Rusias Surface Water Treatment Plant where we remove several contaminants and add disinfectant to protect you from microbial contamination. MHWSC also purchases water from BROWNSVILLE PUBLIC UTILITIES BOARD. BROWNSVILLE PUBLIC UTILITIES BOARD provides Surface Water from Rio Grande, WTP 1 – 94 13th St., WTP 2 – 1425 Robinhood Rd. located in Brownsville, Texas for a certain area only. TCEQ completed an assessment of your source water, and results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for your water system is based on this susceptibility and previous sample data. Any detections of these contaminants will be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts at our system contact General Manager, Mrs. Consuelo De La Rosa at (956) 565-2491.

Military Highway WSC*s drinking water meets all state and federal requirements

**It is natural for drinking water to contain contaminants,
but you will see the levels of the contaminants in our water are well below allowable limits.**

Military Highway WSC employees take pride in delivering drinking water to you and all our customers. This report reflects the hard work of our employees to protect your health by producing, maintaining, and delivering reliable drinking water. If you have any questions concerning this report or any other issue concerning your water utility, please contact General Manager Mrs. Consuelo De La Rosa at (956) 565-2491. We want you to be informed about the quality of your water.

Protecting our water

Military Highway Water Supply Corporation routinely monitors for constituents in your drinking water according to Federal and State laws. This Annual Water Quality Report shows the results for the period of January 1st to December 31st, 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 drinking water.

When the drinking water meets federal standards, there may not be any health based benefits to purchasing bottled water or point of use devices. 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. 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.

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.

Special Notice

Required language for ALL community public water supplies

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 the system's business office.

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. 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 (800-426-4791).

Required Additional Health Information for Arsenic

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Total Organic Carbon

Total Organic Carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfectant by-products. Disinfection is necessary to ensure water does not unacceptable levels of pathogens. Byproducts of disinfection include trihalomethanes (THMs) and haloacetic acids (HAA) which are reported elsewhere in this report.

Secondary Constituents

Your water can be very safe to drink and still have a taste, color, and odor problem. Many constituents (such as calcium, sodium, or iron) which are often found in drinking water, can cause taste, color, or odor problems. The taste, color, odor constituents are called secondary constituents and are regulated by the State of Texas and not EPA. These constituents are not causes for health concerns. Therefore, secondaries are not required to be reported in this document but may greatly affect the appearance and taste of your water.

Microscopic organisms such as algae can also create a taste and/or odor problem, especially during the hot summer months. Taste and odor problems have been experienced in past years in water from the Rio Grande River. However, episode events may occur in any reservoir for a number of reasons, such as a change in temperature, excessive rainfall or flooding.

Turbidity

Turbidity has no health effect. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may also indicate the presence of disease-producing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. We monitor it because it is a good indicator of the quality of water quality and the effectiveness of our filtration.

Cryptosporidium

Cryptosporidium is a microscopic parasite affecting the digestive tracts of humans and animals. It is shed in feces and when ingested, may result in diarrhea, cramps, fever and other gastrointestinal symptoms. Outbreaks have been most commonly associated with person-to-person (day care center) and waterborne (drinking and recreational water) spread of the parasites. Foodborne and animal-(especially calves)-to-person spread has also been documented. No specific drug therapy has proven to be effective, but people with healthy immune systems will usually recover within two weeks. Individuals with weak immune systems, however, may be unable to clear the parasite and suffer chronic and debilitating illness. *Cryptosporidium* may be found in water contaminated by feces. Although filtration removes *Cryptosporidium*, it cannot guarantee 100 percent removal nor can the testing methods determine if the organisms are alive and capable of causing cryptosporidiosis, an abdominal infection with nausea, diarrhea, and abdominal cramps that may occur after ingestion of contaminated water.

Coliform Bacteria

Total coliform bacteria are used as indicators of microbial contamination of drinking water because testing for them is easy. While not disease-causing organisms themselves, they are often found in association with other microbes that are capable of causing disease. Coliform bacteria are more hardy than many disease-causing organisms; therefore, their absence from water is a good indication that the water is microbiologically safe for human consumption. Fecal coliform bacteria and, in particular, *E. Coli*, are members of the coliform bacteria group originating in the intestinal tract of warm-blooded animals and passed into the environment through feces. The presence of fecal coliform bacteria (*E. Coli*) in drinking water may indicate recent contamination of the drinking water with fecal materials. Each day, the corporation tests water from various points in the distribution to ensure water is reaching you in good condition. More than thirty tests are performed on your drinking water each month to make sure it is safe. A table on the following pages indicates whether total coliform or fecal coliform bacteria were found in the monthly samples submitted for testing last year.

Recommended Additional Health Information for Lead

All water systems are required by EPA to report the following language.

"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>."

In the following table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we have provided the following definitions:

Definitions and Abbreviations for terms used in chart

Definitions and Abbreviations: The following tables contain scientific terms and measures, some of which may require explanation.

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 Level 1 assessment is 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 Level 2 assessment is a very 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.

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 a 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)

mrem: millirems per year (a measure of radiation absorbed by the body)

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

ppm: milligrams per liter or parts per million

ppq: parts per quadrillion, or picograms per liter (pg/L)

ppt: parts per trillion, or nanograms per liter (ng/L)

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

About the Attached Tables

U.S. EPA requires water systems to test up to 97 constituents. The following table lists all the chemical constituents detected in MHWSC drinking water. As you can see, the water has far less of each contaminant than is allowed by law. Numerous other constituents were tested for but not detected.

Water System ID # 1080067

2021 Water Quality Test Results

Disinfectant Residuals

Disinfectant Residual	Year	Average Level	Range of Levels Detected	MRDL	MRDLG	Unit of Measure	Violation (Y/N)	Source in Drinking Water
Free Chlorine	2021	2.04	0.4 – 4.3	4	4	ppm	N	Water additive used to control microbes.

Regulated Contaminants

Disinfection By-Products	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2021	21	2.8 – 28.6	No goal for the total	60	ppb	N	By-product of drinking water disinfection.

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

Total Trihalomethanes (TTHM)	2021	42	8.2 – 73.1	No goal for the total	80	ppb	N	By-product of drinking water disinfection.
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*The value in the Highest Level or Average Detected column is the highest average of all TTHM sample results collected at a location over a year

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Arsenic	2021	13	0 – 23.7	0	10	ppb	Y	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium	2021	0.0433	0.005 – 0.0433	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	2021	0.4	0.22 – 0.4	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate [measured as Nitrogen]	2021	1	0.08 – 1.34	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Nitrite [measured as Nitrogen]	10/11/2018	0.1	0.1 – 0.1	1	1	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium	2020	10	0 – 8.6	50	50	ppb	N	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/photon emitters	10/26/2016	10	10 – 10	0	4	mrem/yr	N	Decay of natural and man-made deposits.

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

Combined Radium 226/228	05/16/2018	1.5	1.5 – 1.5	0	5	pCi/L	N	Erosion of natural deposits.
Gross alpha excluding radon and uranium	10/26/2016	3.7	3.7 – 3.7	0	15	pCi/L	N	Erosion of natural deposits.

Synthetic organic contaminants including pesticides and herbicides	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Di (2-ethylhexyl) phthalate	2016	0.69	0 – 0.69	0	6	Ppb	N	Discharge from rubber and chemical factories.

Lead and Copper

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2021	1.3	1.3	0.102	1	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2018	0	15	1.68	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

Turbidity

	Level Detected	Limit (Treatment Technique)	Violation	Likely Source of Contamination
Highest single measurement	0.42 NTU	1 NTU	N	Soil runoff.
Lowest monthly % meeting limit	99%	0.3 NTU	N	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

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 in the violations section.

Violations

Arsenic			
Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.			
Violation Type	Violation Begin	Violation End	Violation Explanation
MCL, AVERAGE	07/01/2021	09/30/2021	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.
MCL, AVERAGE	10/01/2021	12/31/2021	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.

Lead and Copper Rule			
The Lead and Copper Rule protects public health by minimizing lead and copper levels in drinking water, primarily by reducing water corrosivity. Lead and copper enter drinking water mainly from corrosion of lead and copper containing plumbing materials.			
Violation Type	Violation Begin	Violation End	Violation Explanation
LEAD CONSUMER NOTICE (LCR)	12/30/2021	01/05/2022	We failed to provide the results of lead tap water monitoring to the consumers at the location water was tested. These were supposed to be provided no later than 30 days after learning the results.

Public Notification Rule			
The Public Notification Rule helps to ensure that consumers will always know if there is a problem with their drinking water. These notices immediately alert consumers if there is a serious problem with their drinking water (e.g., a boil water emergency).			
Violation Type	Violation Begin	Violation End	Violation Explanation
PUBLIC NOTICE RULE LINKED TO VIOLATION	05/16/2020	12/21/2021	We failed to adequately notify you, our drinking water consumers, about a violation of the drinking water regulations.

About the Attached Tables

U.S. EPA requires water systems to test up to 97 constituents. The following table lists all the chemical constituents detected in MHWSC drinking water. As you can see, the water has far less of each contaminant than is allowed by law. Numerous other constituents were tested for but not detected.

Surface water from Brownsville Public Utilities Board

2021 Water Quality Test Results

Microbiological Contaminants					
Constituent	Highest No. of Positive	MCL	MCLG	Range (Min. – Max.)	Likely Source of Contaminant
T. Coliform	0.8%	Presence of Bacteria in 5% of monthly sample	0%	0 – 0.8%	Naturally present in environment.
Fecal Coliform	0%	A routine sample and repeat sample are total coliform positive and one is also fecal coliform or E. Coli Positive	0%	0%	Human and animal fecal waste. Fecal Coliform (mostly E. Coli), is a portion of the Coliform bacteria group originating in the intestinal tract of warm-blooded animals that passes into the environment through feces.

Radioactive Contaminants *					
Constituent	Highest Level Detected	MCL	MCLG	Range (Min. – Max.)	Likely Source of Contamination
Gross Beta*	6.0 pCi/L	50 pCi/L	0.0 pCi/L	4.4 – 7.6 pCi/L	Decay of natural and man-made deposits.
Radium 228*	1.17 pCi/L	5.0 pCi/L	0.0 pCi/L	<1.0 – 1.17 pCi/L	Erosion of natural deposits.

*Radioactive monitoring performed in 2017

Inorganic Contaminants					
Constituent	Highest Level Detected	MCL	MCLG	Range (Min. – Max.)	Likely Source of Contamination
Arsenic	0.0028 ppm	0.010 ppm	0.0 ppm	<0.0020 – 0.0028 ppm	Runoff from orchards; natural deposits; runoff from glass and electronics production waste.
Copper	0.0081 ppm	1.3 ppm	1.3 ppm	0.0076 – 0.0085 ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Barium	0.098 ppm	2.0 ppm	2.0 ppm	0.0964 – 0.1 ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Cyanide	0.16 ppm	0.2 ppm (As Free Cyanide)	0.2 ppm (As Free Cyanide)	0.16 – 0.16 ppm	Discharge from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Nitrate	0.94 ppm	10 ppm	10 ppm	0.76 – 1.11 ppm	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits.
Fluoride	0.62 ppm	4.0 ppm	4.0 ppm	0.61 – 0.62 ppm	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories.

Disinfection Byproducts					
Constituent	Average Level	MCL	MCLG	Range (Min. – Max.)	Likely Source of Contamination
Total Trihalomethanes	30.3 ppb	80 ppb	N/A	<4.0 – 51 ppb	Byproducts of drinking water chlorination.
Haloacetic Acids HAA5	13.55 ppb	60 ppb	N/A	1.5 – 27.4 ppb	Byproducts of drinking water chlorination.
Chloramines	3.70 ppm	MRDL 4.0 ppm	MRDLG 4.0 ppm	0.85 – 5.60 ppm	Disinfectant used to control microbes.
Chlorine Dioxide	48 ppb	MRDL 800 ppb	MRDLG 800 ppb	0 – 350 ppb	Disinfectant used to control microbes.
Chlorite	0.30 ppm	1.0 ppm	MRDLG 0.8 ppm	0.04 – 0.87 ppm	Byproduct of disinfection with chlorine dioxide.

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 in the violation sections.					

Turbidity (NTU) – State Regulations: Turbidity must stay below 0.3 NTU 95% of the time					
Constituent	Average	MCL	MCLG	Range (Min. – Max.)	Likely Source of Contamination
Turbidity	0.06 NTU	0.30 NTU	N/A	0.02 – 0.24 NTU	Soil runoff.

Brownsville Public Utilities Board
Secondary and Other Constituents Not Regulated
 (No associated adverse health effects)

Constituent	Average Level	Secondary Limit	Range (Min. – Max.)	Likely Source of Contamination
Aluminum	0.0265 ppm	0.05 – 0.2 ppm	0.0227 - 0.0302 ppm	Erosion of natural deposits; residual from some surface water treatment process.
Calcium	88.7 ppm	N/A	83.5 – 93.8 ppm	Abundant naturally occurring element.
Chloride	206 ppm	300 ppm	193 – 220 ppm	Abundant naturally occurring element; used in water purification; byproduct of oil field activity
Hardness as CaCO3	344 ppm	N/A	328 – 359 ppm	Naturally occurring calcium.
Nickel	2.9 ppb	N/A	2.8 – 2.9 ppb	Abundant naturally occurring element.
pH	7.8 SU	>7.0 SU	7.7 – 7.9 SU	Measure of corrosivity of water.
Sodium	183 ppm	N/A	163 – 203 ppm	Erosion of natural deposits; byproducts of oil field activity.
Sulfate	304 ppm	300 ppm	292 – 316 ppm	Naturally occurring; common industrial byproducts; byproduct of oil field activity.
Total Alkalinity as CaCO3	134 ppm	NA	128 – 140 ppm	Naturally occurring soluble mineral salts.
Total Dissolved Solids	942 ppm	1000 ppm	905 – 979 ppm	Total dissolved mineral constituents in water.
Zinc	<0.005 ppm	5.0 ppm	<0.005 - <0.005* ppm	Abundant naturally occurring element.

*All values reported were below detection limits.

VIOLATIONS

VIOLATIONS	Date of violation	Explain violation	Length of violation	Action taken to resolve	Health Effects
Monitoring and Reporting (M/R) The Southmost Regional Water Authority (SRWA), water system PWS ID 0310150, has violated the monitoring and reporting requirements set by the Texas Commission on Environmental Quality (TCEQ) in Chapter 30, Section 290, Subchapter F.	November 26, 2021	The SRWA failed to collect one daily chlorite sample in the month of November. All other daily chlorite samples (29 out of 30) were collected and analyzed accordingly. (Tier 3 violation)	1-day	The SRWA has revised its sampling process, in order to ensure personnel are monitoring chlorite on a daily basis. No additional action is required	N/A (None)