

## City of Merkel Public Water System (PWS) 2023 Annual Drinking Water Report

(Also known as the Consumer Confidence Report)

Water System Identification Number – TX2210002

### Annual Water Quality Report for the period of January 1 to December 31, 2023

City of Merkel PWS purchases treated surface water from the City of Abilene which treats surface water from Lake Fort Phantom, Lake Ivie and Hubbard Creek Lake

*For more information regarding this report contact: Steve Campbell, City Manager at (325) 928-4911  
Este reporte incluye informacion sobre el agua para tomar. Para asistencia en espanol, favor de llamar at telephono (325) 928-4911*

### PUBLIC PARTICIPATION OPPORTUNITIES AT CITY OF MERKEL COUNCIL MEETINGS

**Date:** Third Monday of every month. **Time:** 7:00 PM

**Note** – The meeting time and date may change due to conflicting community events

**Location:** Heritage Hall, 111 Taylor St., Merkel, Texas 79536 | **Phone:** (325) 928-4911

### Sources of Drinking Water

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 EPAs 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.

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).

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>.

### Information about Source Water Assessments

TCEQ completed a Source Water Susceptibility for all drinking water systems that own their sources. This report describes the susceptibility and types of constituents that may 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 Brian Weaver, City Manager at (325) 928-4911.

**Water Quality Test Results Explanation of Acronyms Used in this Report:** The following tables contain scientific terms and measures, some of which may require explanation.

**Avg:** Regulatory compliance with some MCLs are based on running annual average of monthly samples.

**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.

**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.

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

**MFL:** million fibers per liter (a measure of asbestos)

**na:** not applicable

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

**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-or one ounce in 7,350,000 gallons of water.

**ppm:** milligrams per liter or parts per million-or one ounce in 7,350 gallons of water.

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

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

**Disinfectant (Chloramine) levels Testing Results in the City of Merkel Distribution System**

Disinfectant	Year of Range	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Unit of Measurement	Violation	Source of Chemical
Chloramines	2023	2.6	0.42	11.0	4.0	4.0	ppm	N	Disinfectant used to control microbes

**Microbiological (Coliforms) Testing Results in the City of Merkel System**

Type of Contaminant	Sample Year	Total Coliform Maximum Contaminant Level	E. coli Maximum Contaminant Level	Total Number of Positive E. coli or Total Coliform Samples	Violation	Likely Source of Contaminant
Coliform bacteria	2023	0	0	0	N	Naturally present in environment

**2023 Water Loss Audit Information**

Time Period Covered by Audit	Estimated Gallons of Water Lost During 2023	Comments and/or Explanations
January to December 2023	11,348,583	Most of the water lost during 2023 was the result of flushing to maintain water quality or leaks in the distribution system

**Regulated Contaminants Detected**

**Regulated Contaminants in the City of Merkel Distribution System - Regulated Contaminants Detected - Lead and Copper**

Definitions: Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety. Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90 <sup>th</sup> Percentile	# of Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	08/17/2022	1.3	1.3	0.116	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	08/17/2022	0	15	0	1	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2023	16	13.2-18.5	No Goal for the Total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2023	41	23.9-56.3	No Goal for the Total	80	ppb	N	By-product of drinking water disinfection.
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Nitrate [measured as Nitrogen]	2023	0.29	0.28-0.28	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

**City of Merkel purchases water from CITY OF ABILENE. CITY OF ABILENE provides purchase surface water from WEST CENTRAL TEXAS MWD located in STEPHENS county.**

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90 <sup>th</sup> Percentile	#Sites over AL	Units	Violation	Likely Source of contamination
Copper	2023	1.3	1.3	0.249	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.

**Regulated Contaminants in the Source Water – City of Abilene**

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chlorite	2023	0.693	0 - 0.693	0.8	1	ppm	N	By-product of drinking water disinfection.
Haloacetic Acids (HAA5)	2023	21	11.5-25.1	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2023	65	16.3 - 80.6	No goal for the total	80	ppb	N	By-product of drinking water disinfection.

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	2023	0.2	0.18 - 0.2	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Cyanide	2023	147	65.7-147	200	200	ppb	N	Discharge from steel and pulp mills; Erosion of natural deposits.
Fluoride	2023	0.8	0.691-0.8	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]	2023	0.29	0.237 - 0.29	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/photon emitters	2023	10.7	7.7-10.7	0	50	pCi/L*	N	Decay of natural and man-made deposits.
Uranium	2023	2.9	0-2.9	0	30	Ug/l	N	Erosion of natural deposits.

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

**Turbidity**

	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest single measurement	0.19 NTU	1 NTU	N	Soil runoff.
Lowest monthly % meeting limit	100%	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.**

**Violations- City of Abilene**

Violation Type	Violation Begin	Violation End	Violation Explanation
MONITORING, ROUTINE (DBP), MAJOR	01/01/2023	01/31/2023	We failed to test our drinking water for the contaminant and Period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated.