

City of Merkel Public Water System (PWS) TX2210002

2019 Consumer Confidence Report (CCR)

Annual Water Quality Report for the period of January 1 to December 31, 2019

City of Merkel PWS purchases treated surface water from the City of Abilene PWS TX2210001

*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
telefono (325) 928-4911*

PUBLIC PARTICIPATION OPPORTUNITIES AT CITY OF MERKEL COUNCIL MEETINGS

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

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

Information About Your 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 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.

In order to ensure that tap water is safe to drink, the 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 \(800-426-4791\)](http://www.epa.gov/safewater/lead) or at <http://www.epa.gov/safewater/lead>.

Water Quality Test Results - Definitions and Abbreviations used in this Report: The following tables contain scientific terms and units of measurement, some of which may require explanation.

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

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.

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

NTU: nephelometric turbidity units (a measure of turbidity). Turbidity is a measurement of the cloudiness of the water caused by suspended particles. Turbidity is a good indicator of water quality and the effectiveness of the filtration system and disinfectants.

ppm: milligrams per liter/parts per million-or one ounce in 7,350 gallons of water. **ppb:** micrograms per liter/parts per billion-or one ounce in 7,350,000 gallons of water. **ppt:** nanograms per liter (ng/L) or parts per trillion. **ppq:** picograms per liter (pg/L) or parts per quadrillion.

Treatment Technique or TT: A required process intended to reduce the level of a contaminant in drinking water. **n/a:** not applicable.

Disinfectant

Type	Year of Range	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Unit of Measurement	Violation	Source of Chemical
Chloramines	2019	2.13	0.01	4.4	4.0	4.0	ppm	N	Disinfectant used to control microbes.

Microbiological (Coliforms)

Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest Number of Positive Samples	Fecal coliform or E. coli Maximum Contaminant Level	Total Number of Positive E. coli or Fecal coliform Samples	Violation	Likely Source of Contaminant
0	0	0	0	0	N	Naturally present in the environment.

Regulated Contaminants

Disinfection By-Products	Collection Date	Highest Level Detected *	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2019	29	21.3 - 39.1	No Goal for the Total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2019	47	29.1 – 58.6	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]	2019	0.31	0.31 – 0.31	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage. Erosion of natural deposits.
Nitrite [measured as Nitrogen]	2019	0.02	0.02 – 0.02	1	1	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage. Erosion of natural deposits.

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

Lead and Copper

Lead/Copper	Collection Date	MCLG	Action Level (AL)	90 th Percentile	# of Sites Over AL	Units	Violation	Likely Source of Contamination
Lead	2019	0	15	2.4	1	ppb	N	Erosion of natural deposits. Corrosion of household plumbing systems.
Copper	2019	1.3	1.3	0.11	0	ppm	N	Erosion of natural deposits. Corrosion of household plumbing systems.

Violations

NO MONITORING VIOLATIONS IN 2019

Water Loss Audit Information

Time Period Covered by Audit	Gallons of Water Purchased	Estimated Water Loss	Comments and/or Explanations
January 1 to December 31, 2019	85,104,000	12,024,975 or 14%	Most of the water lost during 2019 was the result of flushing to maintain water quality and/or leaks in the distribution system

Information About Source Water

Merkel PWS purchases treated surface water from the **City of Abilene**. Abilene provides water from **Lake Ft. Phantom** (Jones County), **Lake Ivie** (Concho, Coleman, and Runnels Counties) and **Lake Hubbard** (Stephens County).

A Source Water Susceptibility Assessment for your drinking water source(s) has been completed by the Texas Commission on Environmental Quality. This report 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 sources of water, please refer to the Source Water Assessment Viewer available at the following URL: <http://gis3.tceq.state.tx.us/swav/Controller/index.jsp?wtrsrc=>, or contact Steve Campbell at 325-928-4911. Further details about sources and source-water assessments are available in Drinking Water Watch at the following URL: <http://dww.tceq.texas.gov/DWW>.

Regulated Contaminants in Source Water – City of Abilene

Inorganic Contaminants (unit of measurement)	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Violation	Likely Source of Contamination
Arsenic (ppb)	2019	<1.0	<1.0	10	0	N	Erosion of natural deposits.
Barium (ppm)	2019	0.15	0.11 - 0.15	2	2	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
Cyanide (ppb)	2019	98	43.5 - 97.6	200	200	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories
Fluoride (ppm)	2019	0.9	0.702 - 0.878	4	4.0	N	Erosion of natural deposits; water additive for strong teeth; discharge from fertilizer and aluminum factories.
Nitrate as N (ppm)	2019	1	0.146 - 1.03	10.00	10	N	Erosion of natural deposits; runoff from fertilizer use; leaching from septic tanks or sewage.
Selenium (ppb)	2019	<5.0	<5.0	50.0	50	N	Erosion from natural deposits; discharge from petroleum refineries.
Radioactive Contaminants (unit of measurement)	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Violation	Likely Source of Contamination
Beta/proton Emitters (pCi/L)	2014	11.5	11.5-11.5	0	50	N	Erosion of natural deposits; decay of natural and man-made deposits.
Gross Alpha	2017	2	0 - 2	0	15	N	Erosion of natural deposits; decay of natural and man-made deposits.
Gross Beta	2017	8.8	6.2 – 8.8	N/A	N/A	N	Erosion of natural deposits; decay of natural and man-made deposits.
Radium 228 (pCi/L)	2017	<1.0	<1.0	0	5	N	Erosion of natural deposits; decay of natural and man-made deposits.
Uranium (ug/L)	2017	2.3	0 – 2.3	0	30	N	Erosion of natural deposits; decay of natural and man-made deposits.

Turbidity

Highest Single level detected	Lowest monthly % of samples meeting limits	Limit (TT treatment technique)	Lowest monthly % meeting limit	Violation	Source of contaminant
0.29	100.00%	1	0.3	N	Soil runoff