Microbiological Contaminants

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.

Contaminant	Highest Monthly % of positive samples	MCL	Unit of Measure	Source of Contaminant
Total Coliform Bacteria	*0.00%*	Presence of coliform bacteria in 5% of monthly samples	Presence	Naturally present in the environment

Turbidity

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 disinfection process.

Contaminant	Location	Highest Single Measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Unit of Measure	Source of Contaminant
Turbidity	Wright Patman	0.29	100%	≤0.3 in 95% of samples	NTU	Soil runoff
	Millwood	0.30	100%			

Total Organic Carbon (TOC)

The percentage of Total Organic Carbon (TOC) removal was measured monthly in 2021 and TWU met all TOC removal requirements set by USEPA.

Inorganic Contaminants

Contaminant	Location	Average Level Detected	Range of Detected Level	MCL	MCLG	Unit of Measure	Source of Contaminant
Nitrate (as Nitrogen)	City of Hooks	0.3691	0.0704-0.530	10	10	ppm	Runoff from fertilizer use; leakage from septic tanks, sewage; erosion of natural deposits
Barium	Wright Patman	0.054	0-0.054	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
	Millwood	0.0098	0 - 0.0098				
Fluoride	Wright Patman	0.0451	0-0.0451	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
	Millwood	0.0185	0-0.0185				

Synthetic Organic Contaminants

Contaminant	Location	Level Detected	Range of Detected Level	MCL	MCLG	Unit of Measure	Source of Contaminant
Atrazine	Wright Patman	0.0001	0-0.0001	0.003	0.003	ppm	Runoff from herbicide used on row crops

Radioactive Contaminants (2020 Results)

Contaminant	Location	Average Level Detected	Range of Detected Level	MCL	MCLG	Unit of Measure	Source of Contaminant
Gross Alpha	Millwood	4.1 (+/- 0.9)	4.1 (+/- 0.9)	15	0	pCi/L	Erosion of natural deposits of certain radioactive minerals that may emit a form of radiation known as alpha radiation
Gross Beta	Millwood	2.7 (+/- 0.7)	2.7 (+/- 0.7)	50	0	pCi/L	Decay of natural and man-made deposits of certain radioactive minerals that may emit forms of radiation known as photons and beta radiation.

Lead & Copper Tap Monitoring

Contaminant	Location	The 90th Percentile	Number of Sites Exceeding Action Level	Action Level	MCLG	Unit of Measure	Source of Contaminant
Lead	*City of Hooks*	0	0	15	0	ppb	Corrosion of household plumbing systems; erosion of natural deposits
Copper		0.108	0	1.3	1.3	ppm	

Disinfectants

Contaminant	Location	Annual Average	Range of Detected Level	MRDL	MRDLG	Unit of Measure	Source of Contaminant
Chlorine (total)	*City of Hookse*	*2.35*	*0.39 - 3.34*	4	4	ppm	Disinfectant used to control microbes

Disinfection By-Products

Contaminant	Location	Highest Locational Running Annual Average	Range of Detected Level	MCL	MCLG	Unit of Measure	Source of Contaminant
Total Trihalomethane (TTHM)	*City of Hooks*	*43.69*	*35.3 - 61.0*	80	N/A	ppb	By-product of drinking water disinfection
Haloacetic Acid (HAA5)	*City of Hooks*	*21.55*	*15.6 - 29.1*	60	0	ppb	By-product of drinking water disinfection

DEFINITIONS

ADH: Arkansas Department of Health

AL: Action Level - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which water systems must follow.

ALG: Action Level Goal - 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: Average - regulatory compliance with some MCLs are based on a 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.

MCL: Maximum Contaminant Level - the highest level of a contaminant that is allowed in drinking water

MCLG: Maximum Contaminant Level Goal – unenforceable public health goal; the level of a contaminant in drinking water below which there is no known or
MRDL: Maximum Residual Disinfectant Level - the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a
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
MFL: million fibers per liter (a measure of asbestos)
MREM: millirems per year (a measure of radiation absorbed by the body**)**
MW: Millwood Water Treatment Plant
NA: not applicable
NTU: Nephelometric Turbidity Unit (a measurement of turbidity)
ppm: parts per million or milligrams per liter - or one ounce in 7,350 gallons of water
ppb: parts per billion or micrograms per liter - or one ounce in 7,350,000 gallons of water
ppq: parts per quadrillion, or picograms per liter (pg/L)
ppt: parts per trillion, or nanograms per liter (ng/L)
pCi/L: picocuries per liter (a measure of radioactivity)
TCEQ: Texas Commission on Environmental Quality
TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water
TWU: Texarkana Water Utilities
WP: Wright Patman Water Treatment Plant
UCMR: Unregulated Contaminant Monitoring Rule