

Martin County Utilities



May 17, 2022



Tap and bottled water, **how do they compare?**

MCU tap water was compared to nine varieties of nationally & regionally available bottled water brands by:

1. Source of the water
2. Treatment technologies used in production of finished water
3. Ten fundamental water quality characteristics
4. Cost per unit volume.

Note: Water purchased locally at Walmart, Target, and Publix in April 2022.

Tap and bottled water, **how do they compare?**

	Type (as marketed)	Water Source	Treatment
MCU	Drinking water	Groundwater	Reverse osmosis, filtration, chlorine disinfection, with supplemental alkalinity & electrolytes (minerals)
1	Spring water	Groundwater	Microfiltration, UV & ozone disinfection
2	Spring water	Groundwater	Microfiltration, UV & ozone disinfection
3	Drinking water	Municipal	Carbon filtered, ozone disinfection
4	Purified water	Municipal	Reverse osmosis, ozone disinfection
5	Baby purified water (not sterile)	Municipal or groundwater	Distillation, filtration, ozone disinfection, with supplemental electrolytes (minerals) & fluoride
6	Purified water	N/A, “Made in the USA or Imported”	“Advanced” filtration, reverse osmosis
7	Drinking water	Municipal or groundwater	Distillation, ozone disinfection, with supplemental electrolytes (minerals)
8	Purified water	Municipal	Reverse osmosis
9	Baby purified water (not sterile)	Groundwater	Distillation, microfiltration, UV & ozone disinfection

Tap and bottled water, how do they compare?

Primary PW Std	N/A	** < 4	N/A	N/A			< 10	< 1		Negative	Health based
Secondary PW Std	6.5 - 8.5	N/A	N/A	N/A	< 0.3	< 250	N/A	N/A	< 15.0	Negative	Aesthetics based

Sample	pH	Total Chlorine	Total Alkalinity	Total Hardness	Iron	Chlorides	Nitrate	Nitrite	Color	Total Coliform	Cost/Gallon
	Standard Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	#/100mL	\$
MCU Water	8.7	* 3.0	99	68	0.018	71	< 0.23	< 0.025	< 3	Negative	< 0.01
Bottle Water #1	7.6	< 0.1	148	162	< 0.009	15.9	2.03	< 0.025	< 3	Negative	1.73
Bottle Water #2	5.3	< 0.1	< 25	14	0.016	3.9	< 0.23	< 0.025	< 3	Negative	1.45
Bottle Water #3	6.3	< 0.1	< 25	< 5	< 0.009	< 1	< 0.23	< 0.025	< 3	Negative	0.89
Bottle Water #4	6.1	< 0.1	< 25	12	< 0.009	< 1	< 0.23	< 0.025	< 3	Negative	0.89
Bottle Water #5	7.3	< 0.1	< 25	20	< 0.009	8.2	< 0.23	< 0.025	< 3	Negative	1.45
Bottle Water #6	5.7	< 0.1	< 25	< 5	< 0.009	< 1	< 0.23	< 0.025	< 3	Negative	0.99
Bottle Water #7	6.9	< 0.1	< 25	16	< 0.009	10.7	< 0.23	< 0.025	< 3	Negative	6.75
Bottle Water #8	6.1	< 0.1	< 25	10	< 0.009	< 1	< 0.23	< 0.025	< 3	Negative	4.47
Bottle Water #9	5.8	< 0.1	< 25	18	< 0.009	< 1	< 0.23	< 0.025	< 3	Negative	1.00

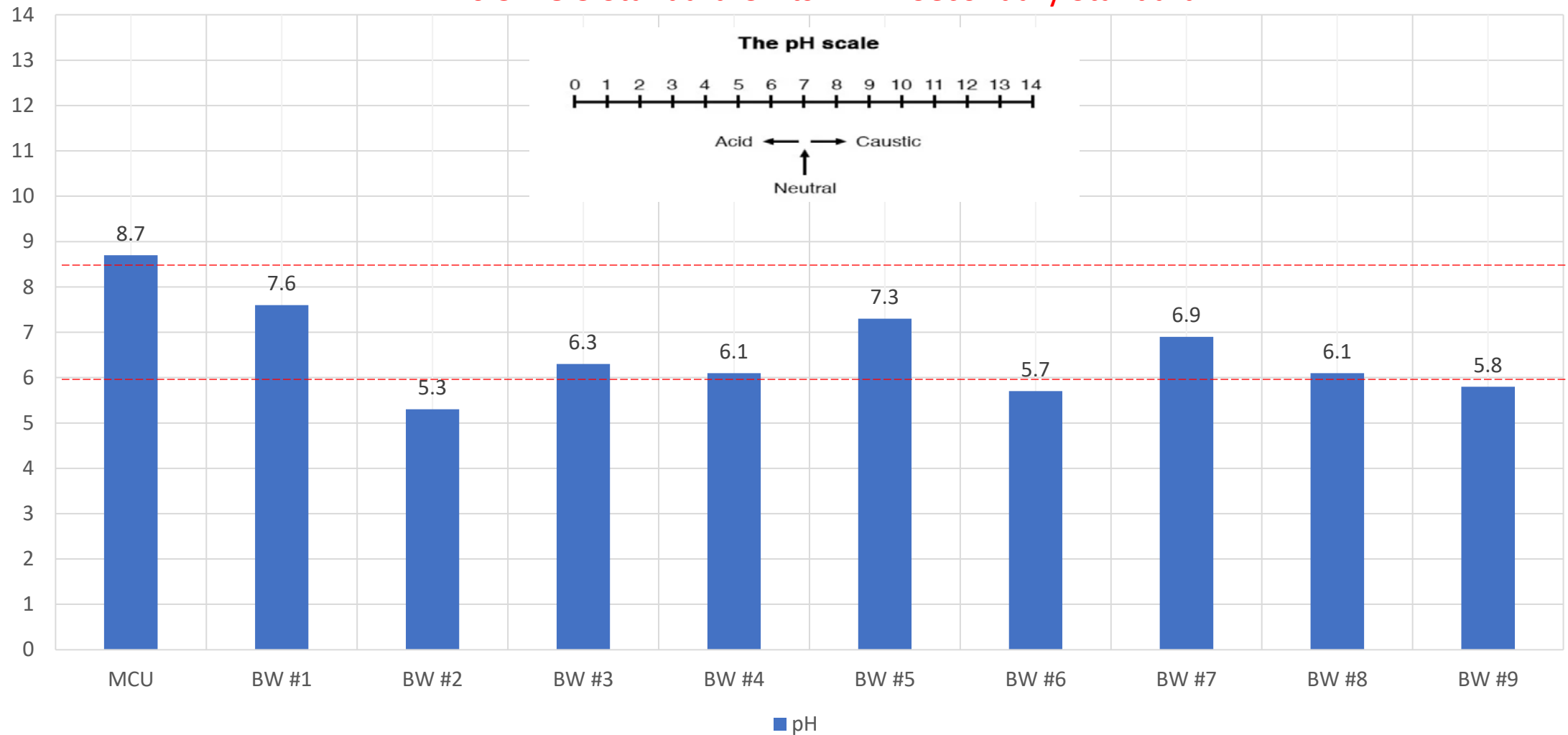
* 2021 max annual average (computed qtrly)

**MRDLG - Maximum residual disinfectant level goal

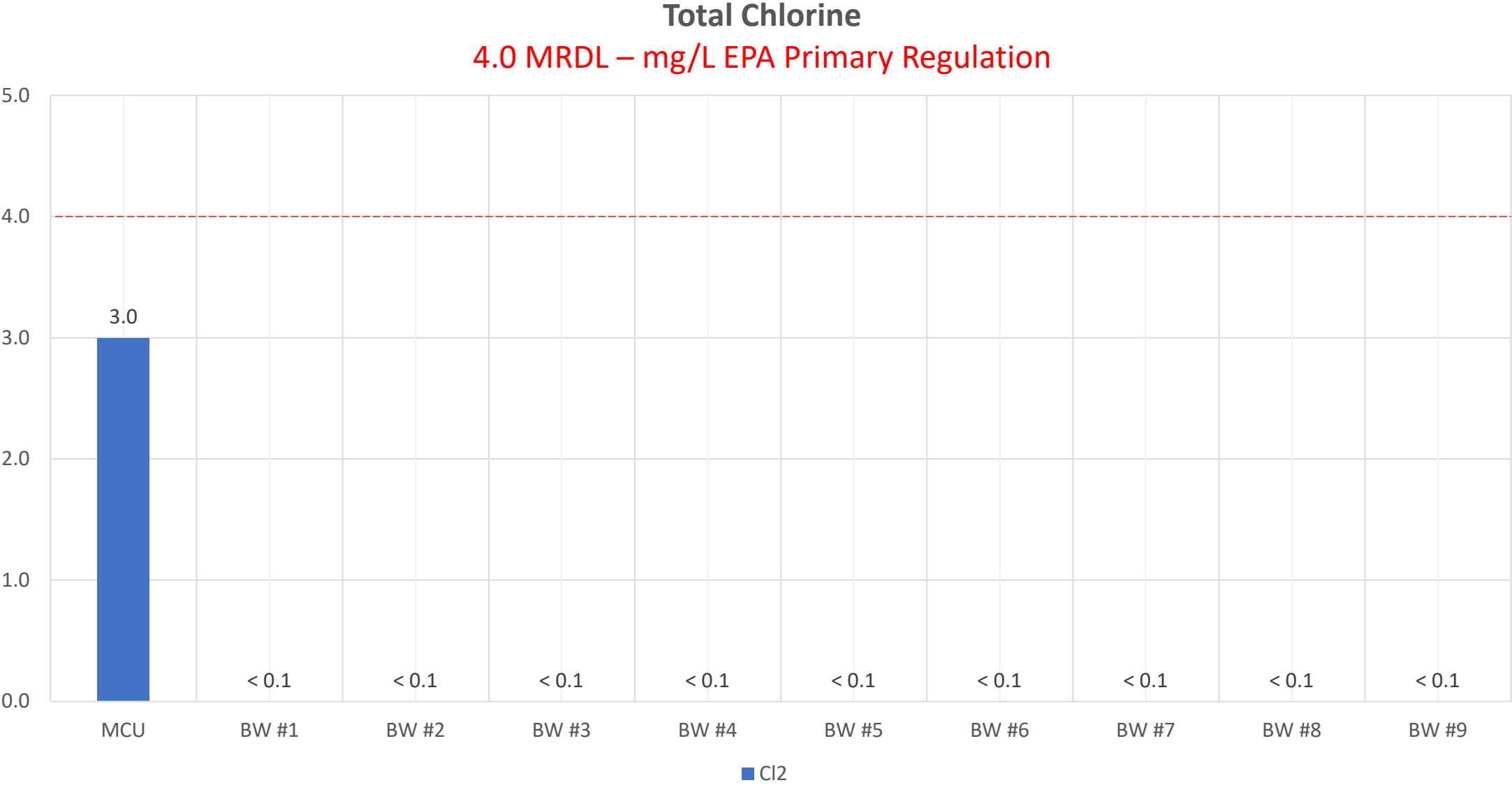
pH - Is a measure of how acidic/alkaline water is.

pH

6.5 – 8.5 Standard Units – EPA Secondary Standard

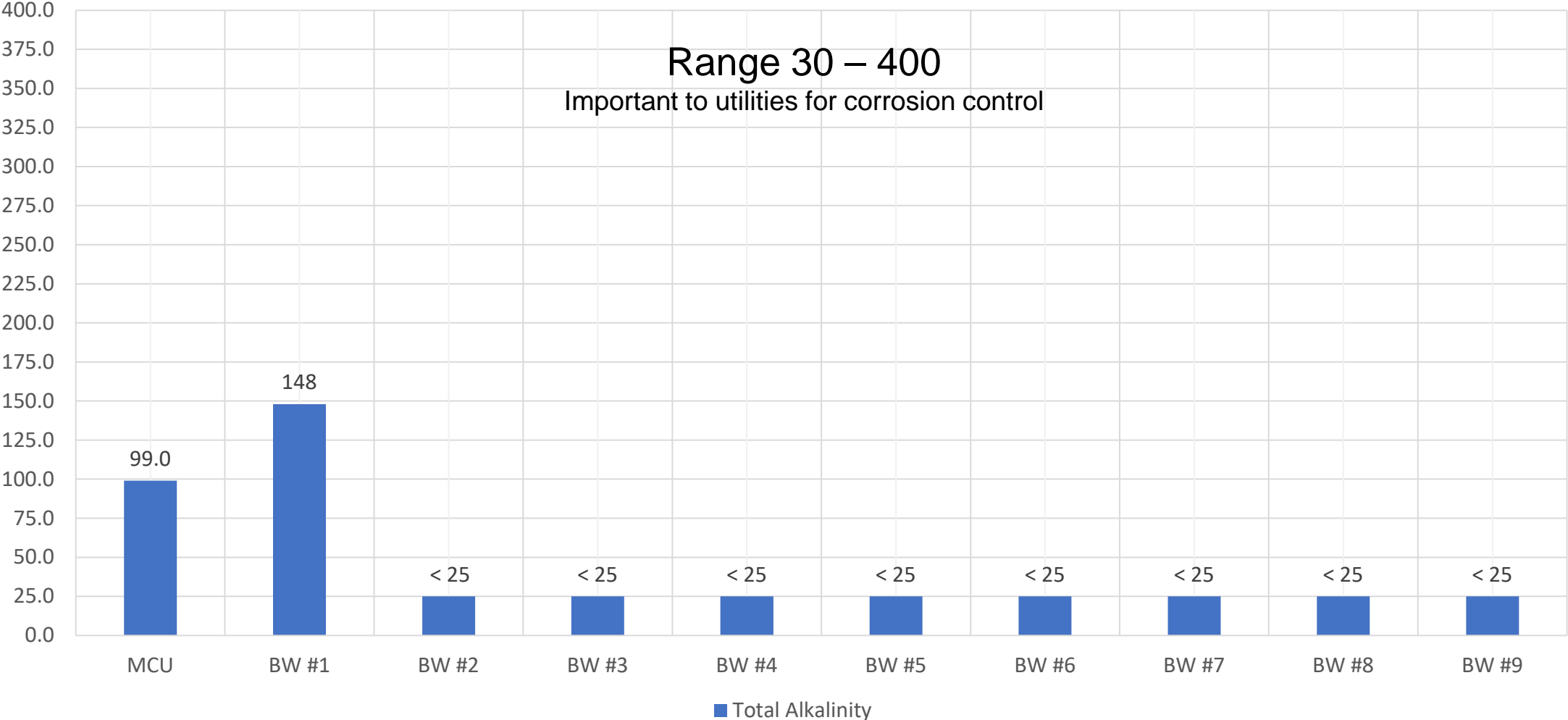


Total Chlorine - Is the total amount of chlorine in the water.

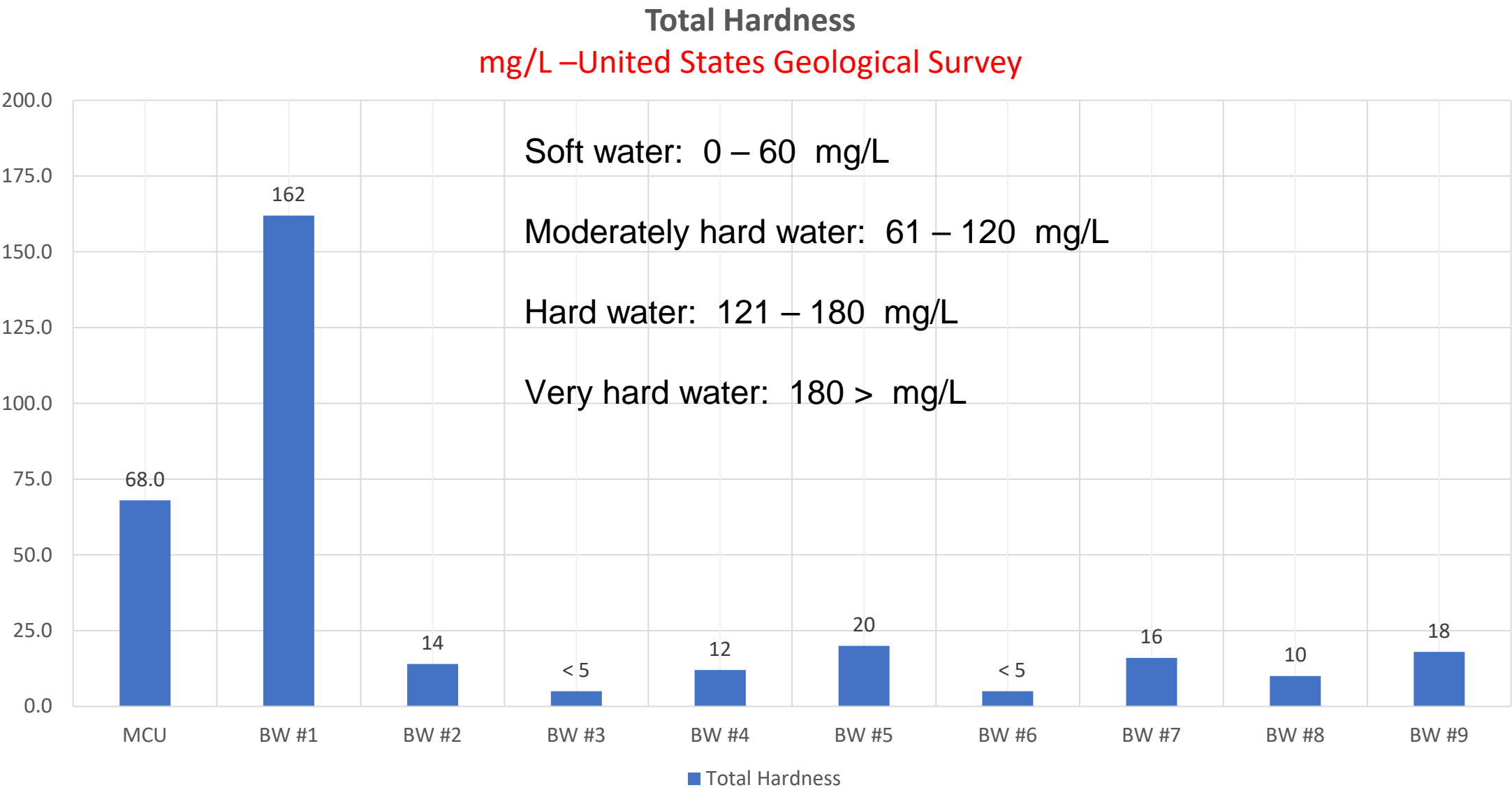


Total Alkalinity - Is the measure of water's ability to neutralize acids.

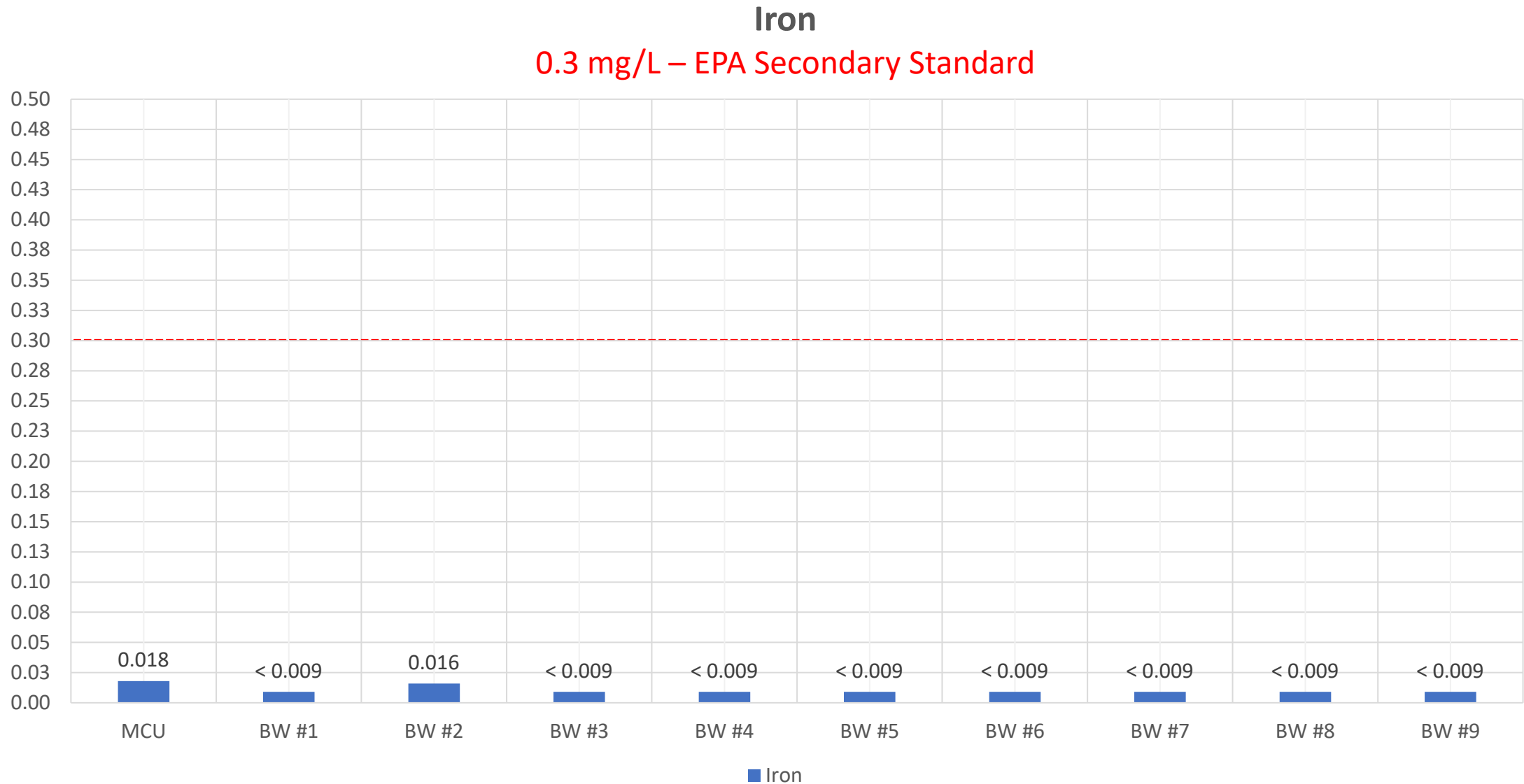
Total Alkalinity
mg/L – No EPA Primary or Secondary Standard



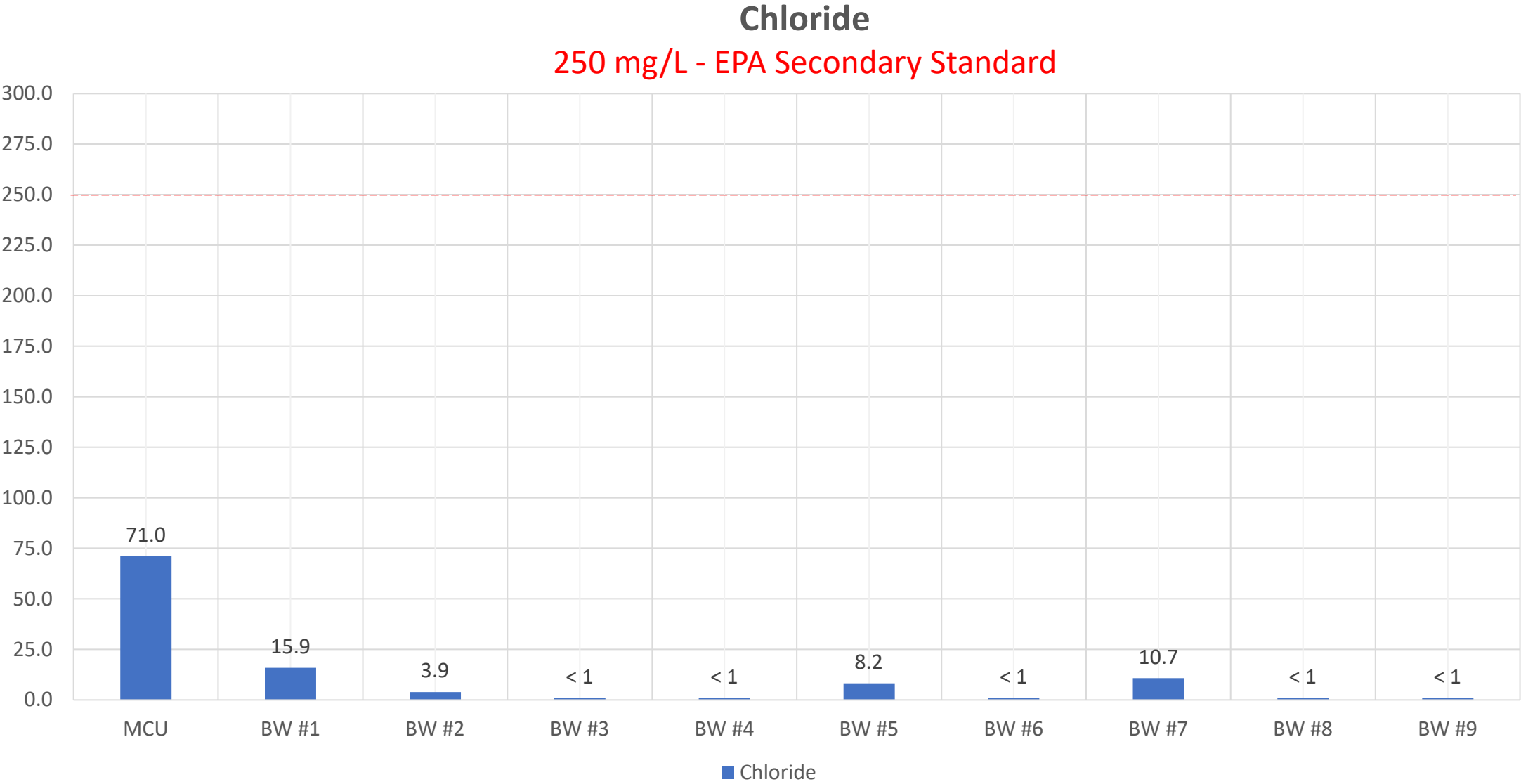
Total Hardness - Is the sum of the calcium and magnesium concentrations.



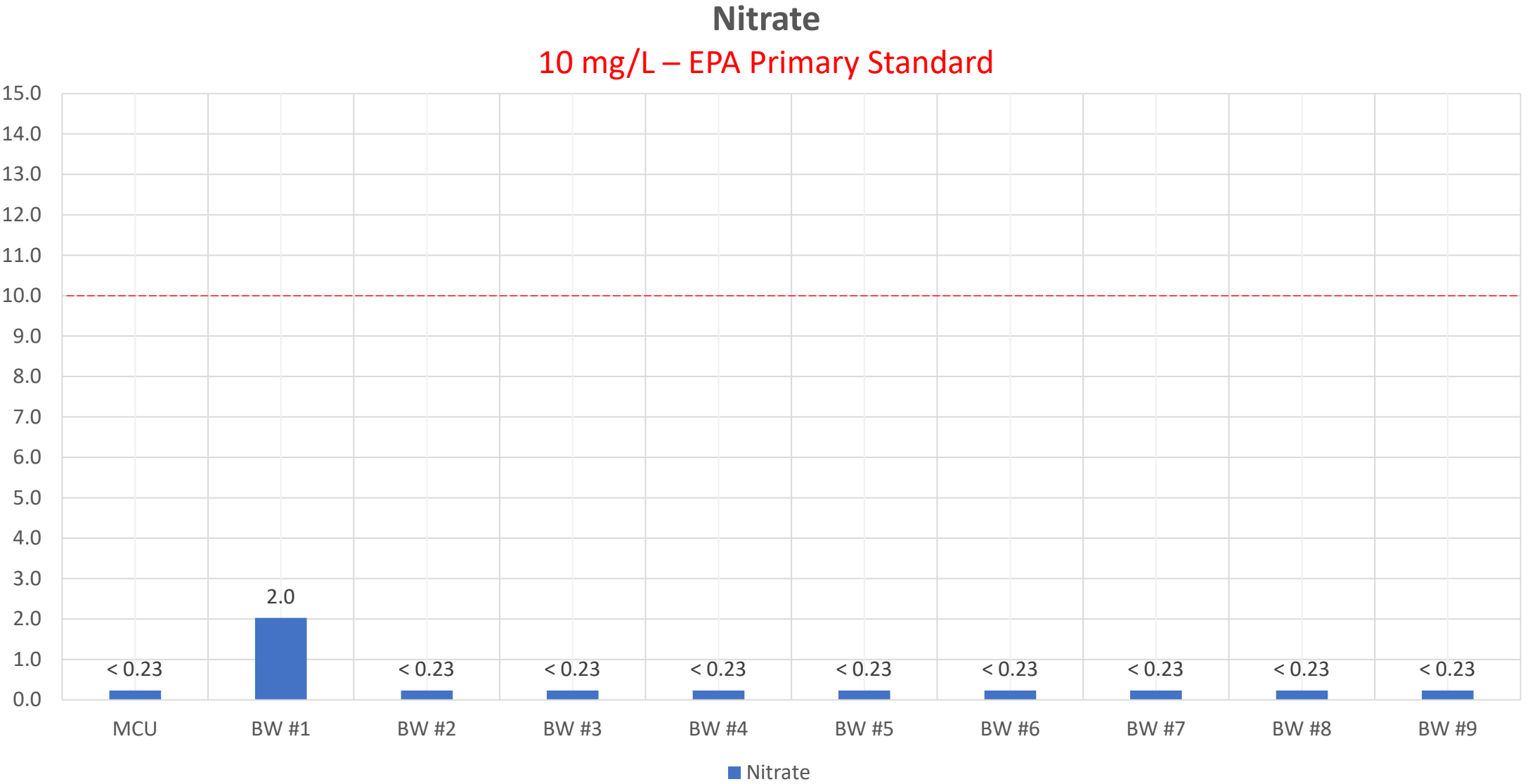
Iron - **Is not hazardous to health, but it is considered a secondary or aesthetic contaminant.**



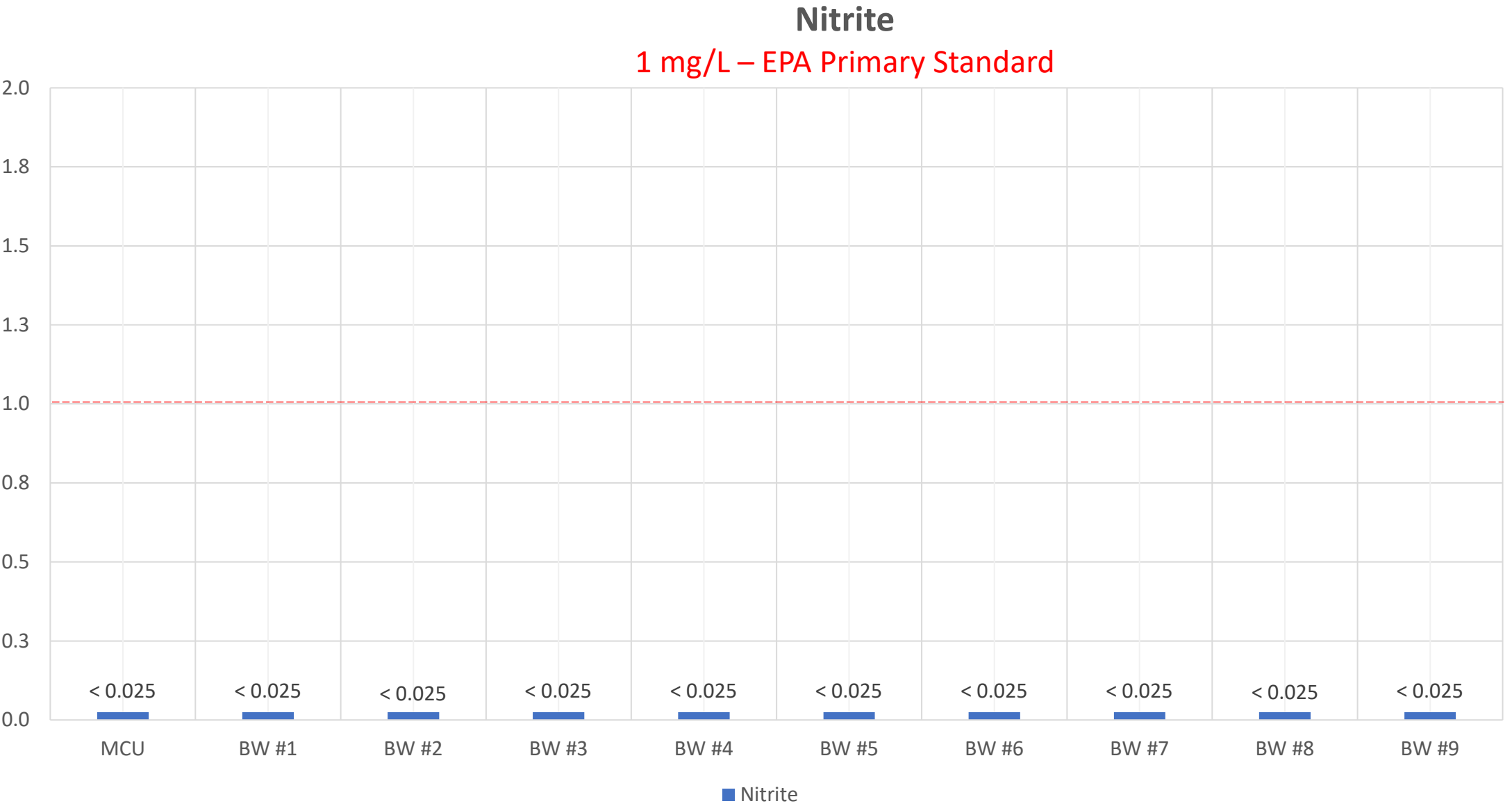
Chloride - Is a naturally occurring element that is common in most natural waters and is most often found as a component of salt.



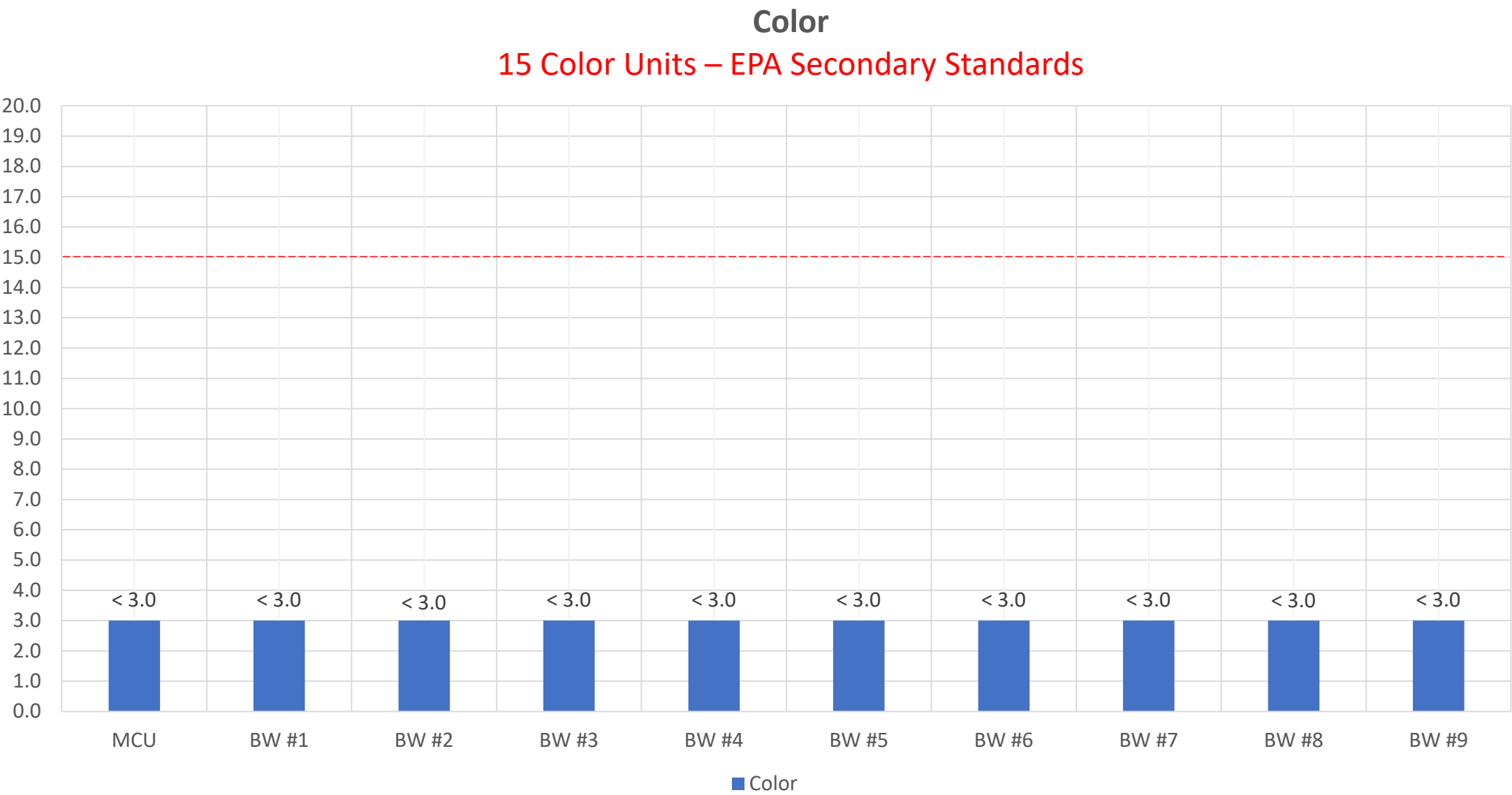
Nitrate - Is a compound that naturally occurs and has many human-made sources.



Nitrite - Come from fertilizers through run-off water, sewage, and mineral deposits.

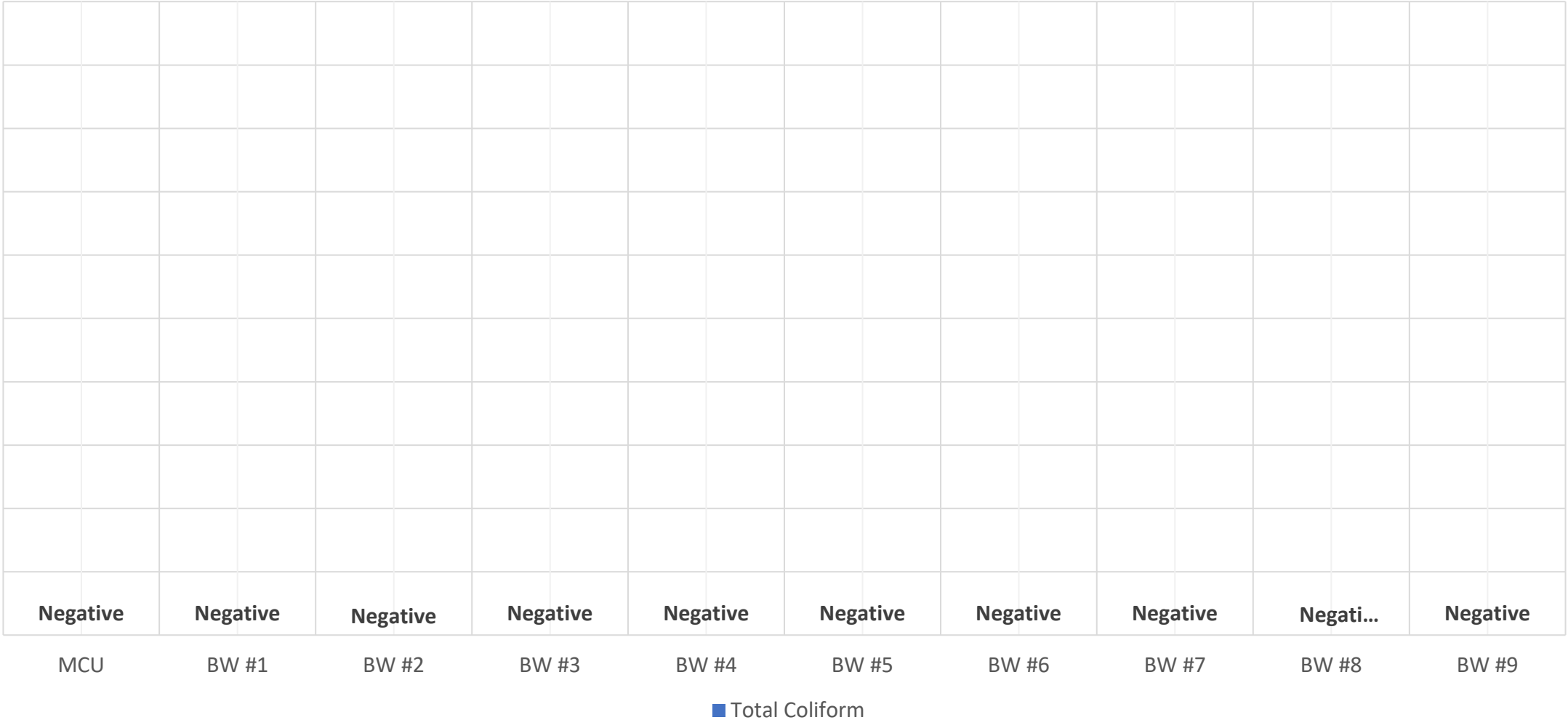


Color – In water results primarily from the presence of dissolved organic matter.

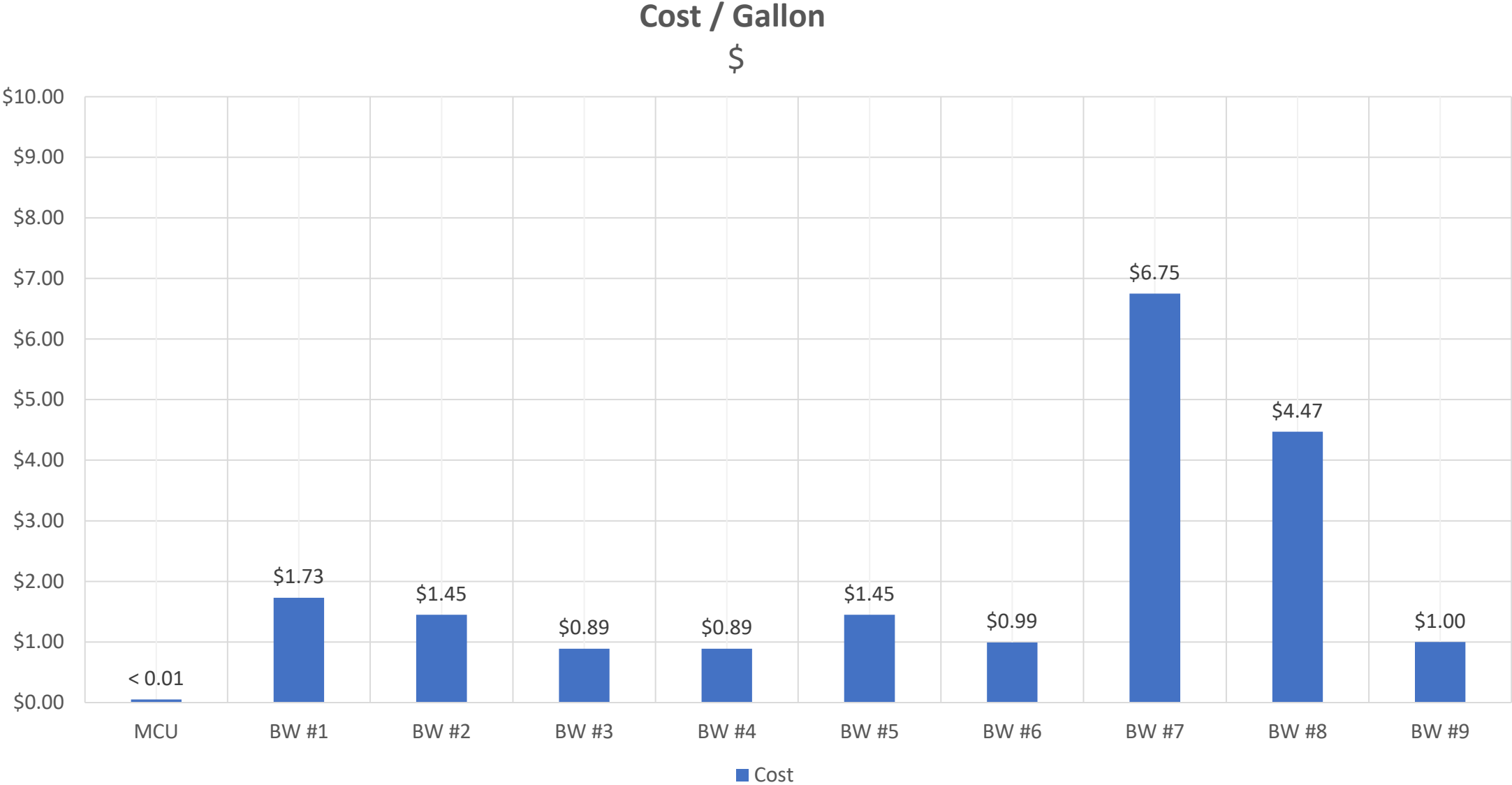


Total Coliform - Bacteria that are found in the soil, in water that has been influenced by surface water, and in human or animal waste.

Total Coliform
#/100 mL - Negative



Cost / Gallon – Retail price of a gallon of water.



Martin County Utilities

Laboratory Team Working on the project



Tap and bottled water, **how do they compare?**

Overall, tap water is a better option for economy, convenience, safety, and a lighter environmental footprint than bottled water.

- MCU tap water is priced more than 100 times lower than the least expensive bottled option and delivered at no additional charge.
- Tap water is safe to drink and rigidly regulated. Most people will not be able to tell the difference in taste.
- Bottled water may be more convenient for people on the go. To remedy this, people can carry a reusable bottle and refill it at home or a public facility, which also saves on single-use plastic waste production and recycling or landfill costs.

Martin County Utilities



OUR TREATMENT PLANTS

Martin County Utilities is dedicated to protecting public health by providing safe drinking water in a cost effective manner. Our customers are our first priority. As demands on Southeast Florida's limited water resources increase and EPA drinking water standards become more restrictive, these objectives are continually challenged. We are proud of our forward-thinking approach to providing a safe drinking water supply to our citizens.



Martin County Utilities operates two plants: the North County Water Treatment Plant in Jensen Beach and Tropical Farms Water Treatment Plant in the south. Both plants utilize two distinct underground sources of water, the shallower surficial aquifer and the deeper Floridan aquifer, each requiring different methods of treatment. By treating the more mineralized Floridan aquifer, considered an alternative water source, we conserve the shallow groundwater for future. Blending it with the surficial product water provides alkalinity and hardness and results in a stable finished product.

Our Tropical Farms plant is a 10 million gallon per day (MGD) facility that consists of 8 MGD of reverse osmosis (RO) treated brackish groundwater and 2 MGD of surficial groundwater that has been treated through an iron treatment facility (ITF). The product of the RO process is relatively free of desirable minerals, so ITF

product water is then blended to enhance the stability of the water. The blended water is degasified to strip out hydrogen sulfide gas, followed by pH and alkalinity adjustment. Adequate disinfection is then performed to retain an acceptable residual for safety throughout the system, and the finished water is transferred to storage and pumped to distribution.

Our North plant is an 8.8 MGD facility that consists of 5.5 MGD of RO treated brackish groundwater and 3.3 MGD of surficial water blend. The treatment process is very similar to Tropical Farms. Surficial groundwater is chlorinated and flows through multi-media filters. The RO permeate is degasified and chlorinated prior to mixing with the surficial blend water. Alkalinity and pH are then adjusted, disinfection is accomplished, and finally the finished water is transferred to storage and distribution.

Winner: Martin County Utilities




American Water Works
Association
FloridaSection

REGION VIII

Best Tasting Drinking Water Contest

FOR MORE INFORMATION, CONTACT:

Pierre Vignier
Port St. Lucie Utility Systems
900 S.E. Ogden Ln.
Port St. Lucie, FL 34983

Wednesday,
March 16, 2022

11:30 a.m. - 1 p.m.

Port St. Lucie
Community Center
2195 S.E. Airoso Blvd.
Port St. Lucie,
FL 34984

Phone: (772) 871-5434

Main: (772) 528-2153

Fax: (772) 873-6405

Email: pvignier@cityofpsl.com

- All Florida Region VIII Utilities are invited to participate and provide one sample of their potable water. All entries will be judged and one will be selected as the "FSAWWA Region VIII Best Tasting Drinking Water Contest Winner."
- The Region VIII winner is invited to participate in the Best of the Best Tasting Drinking Water Contest to be held during the Florida Water Resources Conference (FWRC) on Tuesday, April 26, 2022, at the Ocean Center, Daytona Beach.
- Please review and comply with the sample and judging requirements. Mail or fax registration form to Pierre Vignier using the above information no later than March 9, 2022. A complete list of sample and judging guidelines will be forwarded to all participants.

