T. O. C. to a reader means Table Of Contents. To a soldier, Tactical Operations Center. To a prisoner, Transfer of Custody. To a debater, Tournament of Champions. However, in this essay, a TOC that should matter and be relevant to anyone, regardless of occupation or even employment, is Total Organic Carbon. Total Organic Carbon, like a Table of Contents, should be a guide to where you source your water from. Total Organic Carbon readings, like a Tactical Operations Center, demand action. Total Organic Carbon, like a Transfer of Custody, must be removed from a facility for the wellbeing of the patrons of a water district. And, like a Tournament of Champions, paying attention to Total Organic Carbon, can lead you to victory and wisdom when it comes to safety and state of mind.

According to Elga Veolia, "Total organic carbon, TOC, is a measure of the total amount of carbon in organic compounds in an aqueous system . . . TOC is used as an ongoing monitor of change or lack of change in organic content." Most levels of TOC come from NOM, natural organic matter, which is a result, mostly, of decomposing plant and animal material (United State Environmental Protection Agency). That's rotted roses and roadkill, folks. Most of that junk gets into our drinking and bathing water from the source. That is why, in America, we are so fortunate to have standardized purification systems. Everyone's water source is unique and has to be studied and tested to analyze the best ways to harmonize and optimize the quality of the water supplied to our communities. Places like Durant, OK, who source from smaller bodies of water, like Blue River and Eagle Lake, use a "treatment train" (a series of processes applied in a sequence) that includes coagulation, flocculation, sedimentation, filtration, and disinfection.

> Coagulation removes dirt and other particles suspended in the source water by adding chemicals (coagulants) to form tiny sticky particles called 'floc,' which attract the dirt particles. Flocculation (the formation of larger flocs from smaller flocs) is achieved using gentle, constant mixing. The heavy particles settle naturally out of the water in a sedimentation basin. The clear water then moves to the filtration process where the water passes through sand, gravel, charcoal or other filters that remove even smaller particles. A small amount of chlorine or other disinfection method is used to kill bacteria and other microorganisms (viruses, cysts, etc.) that may be in the water before water is stored and distributed to homes and businesses in the community (Rural Water 2 Consumer Confidence Report).

Articles of NOM can be present in many of these stages, therefore TOC levels vary and dwindle as the process continues. In Durant, OK, Rural Water 2 in 2017, presented -1% detect of

TOC in water. This level is outstanding and reassuring. Of course, when you are a local company meeting the water safety needs for your own community, friends, and family, there is a level of trust that Rural Water 2 does not take for granted. According to Hach Drinking Water Analysis Application, monitoring and minimizing levels of TOCs are important for human consumption in more ways than one:

> [For industrial wastewater industries,] which discharge liquid waste into a surface water body are required to monitor TOC. [For power plants,] limiting potential sources of corrosive compounds can prevent costly damage to expensive equipment. [For pharmaceutical manufacturers,] water is the most commonly used ingredient used to produce drugs. Regulations limit the concentration of organic carbon to prevent harmful bacteria from growing. [For electronics manufacturers,] ultra-pure water is used in the manufacture of microprocessors and computer chips. As processors and circuits become smaller and smaller the water must be kept incredibly clean to prevent microscopic damage to these miniature circuits.

As stated by Hach, the damage unfiltered TOCs can do to water systems, pharmaceutical and electronic manufacturing, as well as our environment is often overlooked. Analyzing what we bring into our homes and bodies is important. It is crucial to know where our water is coming from, what's in it, and how it affects us.