

THORNE BAY UTILITY UPDATE

The City of Thorne Bay Water and Sewage Treatment process were developed and installed prior to the formation of the City of Thorne Bay, thirty plus years ago. Over the years the City has installed upgrades and upgraded equipment to keep the treatment systems functioning. It was not that long ago when water arriving at your home was brown and turned everything brown including your laundry because the treatment process did not remove all the tannins, the fine organic matter suspended in the water. The removal process that eliminated most of the tannins has now elevated the levels of disinfection byproducts. Everyone knows what the water looks like after heavy rains, brown with tannins and that is how the city water source looks like year round.

What are disinfection byproducts? The byproducts come from the mixing of chlorine with natural-occurring materials in the water (tannins). The chlorine is the disinfectant used to inactivate (or Kill) microbial pathogens such as Giardia, E. Coli, Fecal Coliform, Cryptosporidium and viruses that can cause serious health issues. This byproduct as it sits in the water pipes can also form a slime that occasionally breaks loose and enters the home water systems and plugs filters. You can go onto the EPA web site to read about disinfection byproducts. The risk of illness from disinfection byproduct is much lower than the risk of illness from drinking water from most surface sources (rain catchment systems) and many groundwater sources (springs) that have not been disinfected.

The Alaska Department of Environmental Conservation (ADEC) enforces the EPA standards which are in place to regulate the level of disinfection byproducts. The maximum contaminate level (MCL) for disinfection byproducts (DBP) is based on a long term exposure level calculated by the EPA. They typically base MCLs on a person drinking two liters of water per day for 70 years. Not to belittle the seriousness of DBPs but we also should be concerned about the amount of contaminants we absorb from the air caused by wood smoke, wood stoves, burn barrels, idling vehicles and cigarettes. Some of these contaminants contained in the air particulates are proven to cause cancer.

For the past 5 years the city has been seeking funding to resolve the disinfection byproduct issue. Several studies show that due to the age of the treatment facility and the surface water source, that the only good option would be to construct a new treatment facility using a different treatment process. Great solution if only we had millions of dollars. Ketchikan tried this and still could not meet the EPA standards for disinfection byproducts. Other alternatives which will not eliminate the disinfection by products but would help lower the numbers are additional storage in a 2nd reservoir, sand filter to help filter out the tannins, ground water source to eliminate the tannin issue, aeration in reservoir to keep the water circulating, replace and upgrade some of the treatment equipment to better regulate the chemical treatment process, eliminating all the dead end lines by looping back into the system.

Not one or even all of these processes will assure disinfection byproduct levels will meet the federal or state requirement but each one will help and in the last 5 years the City has been within financial constraints trying to implement parts of the studies recommendations. Without substantial funding assistance through grants or outrageous user fees the reduction of disinfection byproducts will be a slow process. The City is under a voluntary consent order with the ADEC to work diligently toward lowering the disinfection byproducts to within acceptable standards.

Wayne Benner, City Administrator