



## THM & HAA REMOVAL PILOT TEST

### The Challenge:

Public Water Systems add disinfectants such as chlorine or chloramines to protect drinking water from disease-causing organisms. These disinfectants also react with natural organic matters (NOMs) in the water and form chlorination disinfection by-products (CDBs).

Drinking water containing THMs and HAAs in excess of Health Canada Maximum Acceptable Concentration (MAC) or EPA (MCL) level, could over many years cause problems with liver, kidney, or central nervous system, birth defect, early-term miscarriages, reproduction system disease and have an increased risk of cancer.

### Econse Solution:

Elimination of the precursors that cause THMs & HAAs is the best way to reduce the overall THMs & HAAs levels to below requirement. The ECONSE Advanced Water Purification Units such as our WATERHORSE are designed to remove THMs and HAAs precursors before primary chlorination.

However for this test we looked at an inline secondary treatment as another way to provide solutions for communities with localized problems such as water towers and stand pipes. We performed a small-scale test to examine the effect of treatment on Total THM (TTHM) and Total HAA (THAA) as well as the effect on nine specific compounds that are regulated by the Health Authorities in Canada and The USA.

**Test Water was spiked to over 200 ppb of TTHMs and 200ppb of THAAs which represents more than 2 x times the maximum regulated levels.**

### The Results:

Test Results were verified by a 3rd party certified laboratory.  
Total THM were eliminated to more than 99% removal using our test equipment.  
Total HAA were reduced by 20% removal using our test equipment.  
In full scale applications our process would show over 25% reduction in THAAs.

**Please contact ECONSE if your community is interested in a demonstration.**