

Medora Corporation

Potable Tank THM Reduction

USHIPW-LOC1015.001

Topics: potable, THM reduction, TTHM, chlorine, stratification/water age



Crew deploying SN15 at location, SN15 floating in tank, and the tank in its natural setting.

Customer: Information is available upon request from Medora Corporation. 866-437-8076 info@medoraco.com

Overview: This tank is a concrete cylindrical potable water storage tank that serves the area's distribution system. The tank is 130 ft. diameter x 22 ft. high, with a capacity of 2.0 million gallons (MG). The maximum inflow rate is 6.3 million gallons per day (MGD).

The tank receives water from a reservoir, which is treated at a water treatment plant. This plant is a direct filtration surface water treatment facility with a capacity of 9 MGD. Chlorine is used as the disinfectant.

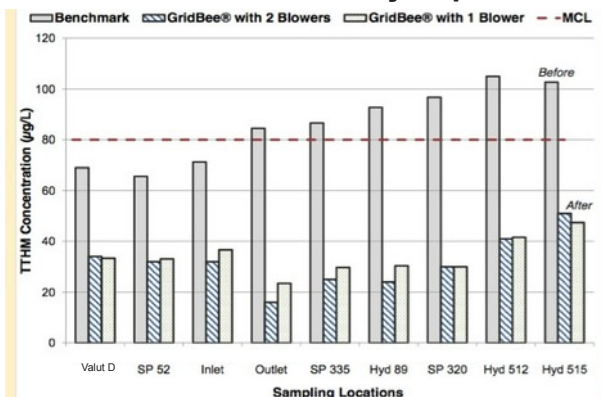
Conditions / Objectives: TTHM levels in the area's distribution system met the EPA Locational Running Annual Average (LRAA) requirement of < 80 µg/L in 2012, but individual samples showed TTHM was sometimes up to 84 µg/L, at the tank's outlet, and 105 µg/L at the end of the service line. Dr. Steven J. Duranceau, and his staff, of the University of Central Florida consulted with the County's Department of Water Supply to identify and evaluate alternative treatment options to reach a LRAA goal of < 40 µg/L TTHM throughout the area's distribution system.

Solution: Seven (7) of its GridBee® SN-15 floating spray nozzle THM removal machines in Brooks Tank, and two (2) 5 HP blowers. Deployment Date: February 2013

Results: The GridBee® system has proved to be an effective strategy for stripping TTHM, and allowed the Department to achieve a LRAA of 43 µg/L TTHM throughout the distribution system (view charts). The GridBee® system in the Tank removed 23% to 50% of the TTHM, depending on whether one or two blowers were operated based on energy savings, and the highest TTHM level measured was 59 µg/L. The pH and chlorine levels were not noticeably impacted

by the GridBee® system. Due to the GridBee® system being in place, the Department was able to meet the Stage 2 requirements while their GAC system was in construction at the WTP. The load on the GAC system will be far less than originally anticipated because the GridBee® system has worked so well.

GridBee® Secondary Impacts



GridBee® Performance Summary

2011 LRAA	2012 LRAA	2013 LRAA With GridBee®
93 µg/L TTHM	62 µg/L TTHM	43 µg/L TTHM

LRAA data was provided by the County.

- The LRAA comparison shows that the GridBee® aeration treatment reduced the LRAA by about 20 µg/L from 2012, and maintained the average TTHM concentration at about half of the MCL, which satisfies the County's TTHM goal

Credit for this data is attributed to Dr. Steven J. Duranceau and his staff. The County's Department of Water Supply are pleased with the results of this installation and are happy to serve as a positive reference for future customers.