

HydroFLOW Case Study - Kentucky Distillery

Cooling tower and Dephlegmator (Heat Exchanger) - January 2023



Background

The Customer

A bourbon whisky distillery in Kentucky.

The Customer's Pain Point

Both the cooling tower and dephlegmator, a specialized heat exchanger used in the distilling process, were experiencing scale buildup that was negatively affecting both temperature and flow rates that are critical to the process.

Current chemical treatment was struggling to keep the scale accumulation under control. The system also suffered from biological problems.



Hard limescale inside dephlegmator



Limescale inside pipe



Limescale on cooling tower nozzles

Installed Equipment

A *HydroFLOW* i12" Custom unit was installed on the cooling tower's recirculating loop in order to treat the entire system. The dephlegmator is located at the furthest point in the loop from the tower.



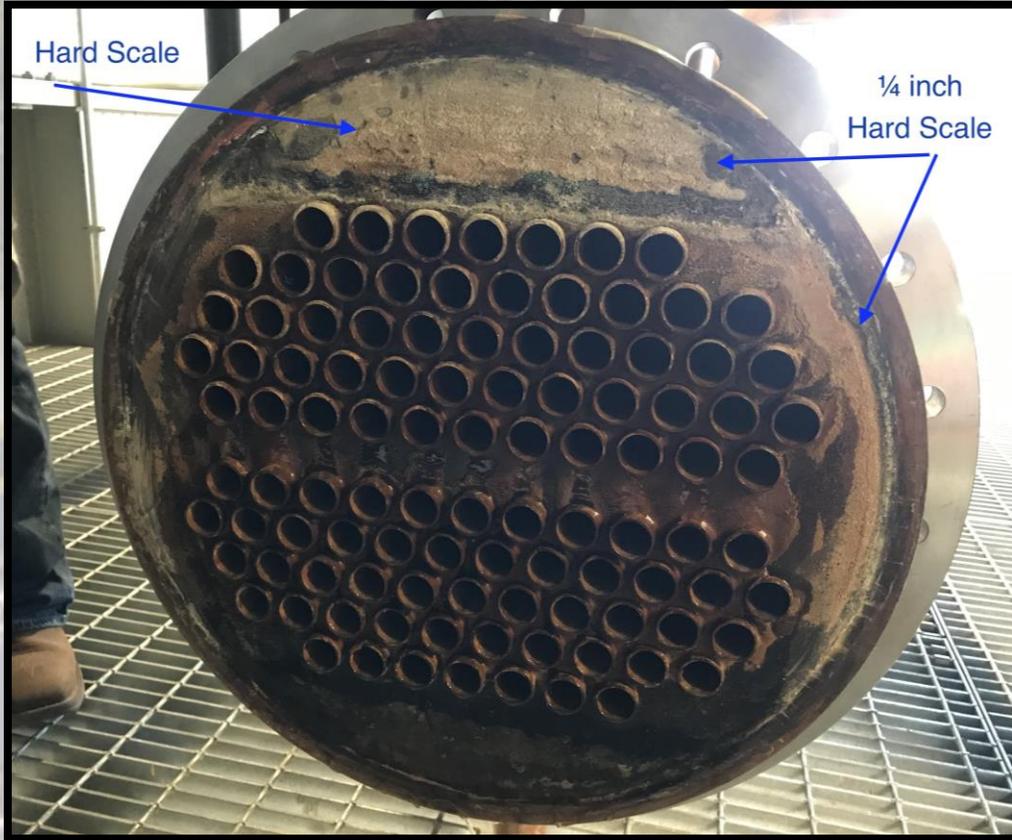
Installed *HydroFLOW* i12"



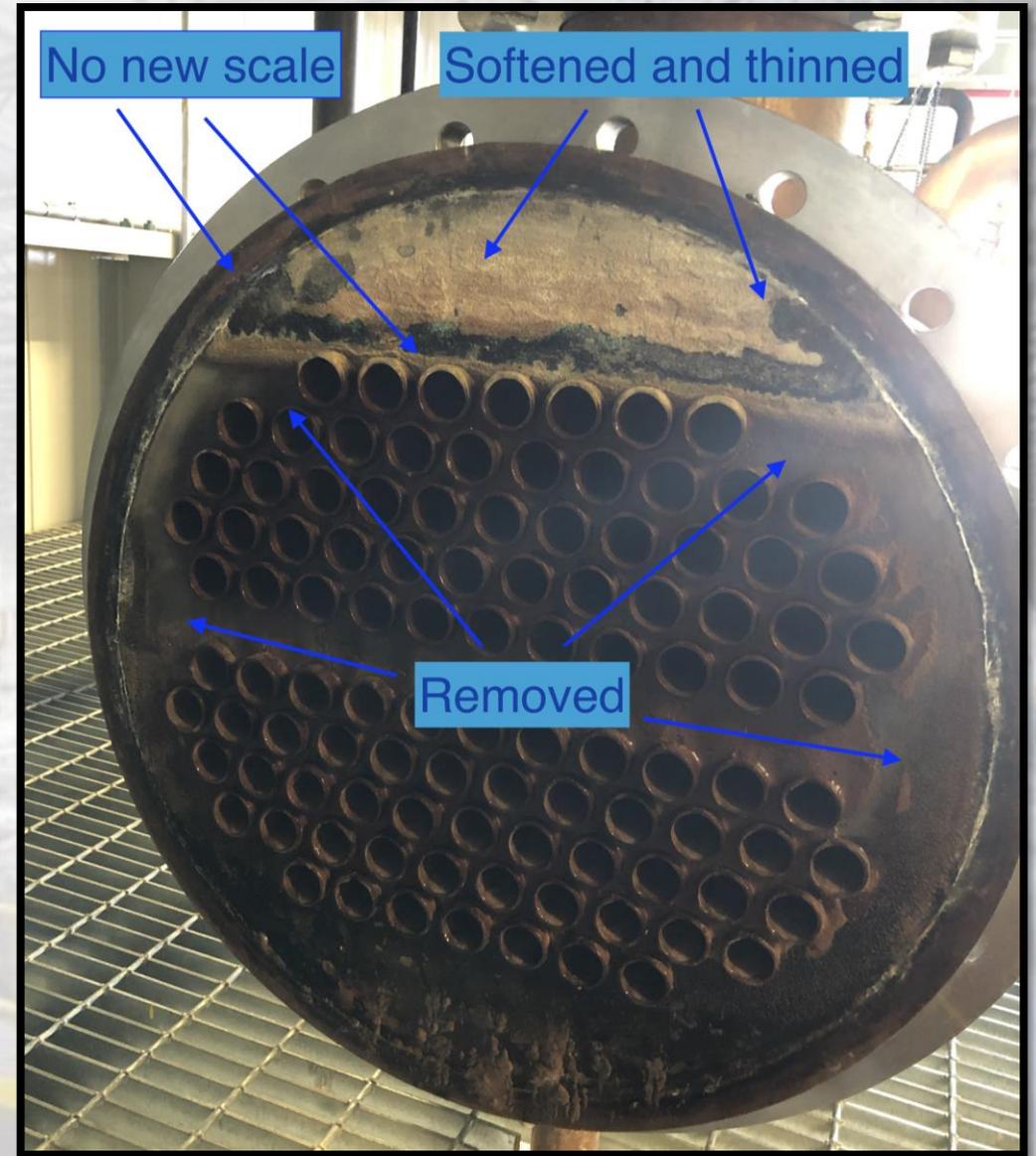
Distillery cooling tower

Results - Dephlegmator

Seven weeks after the installation of *HydroFLOW*, no new scale formed in the dephlegmator. Existing scale was “softer” and noticeably thinner.



Before



After

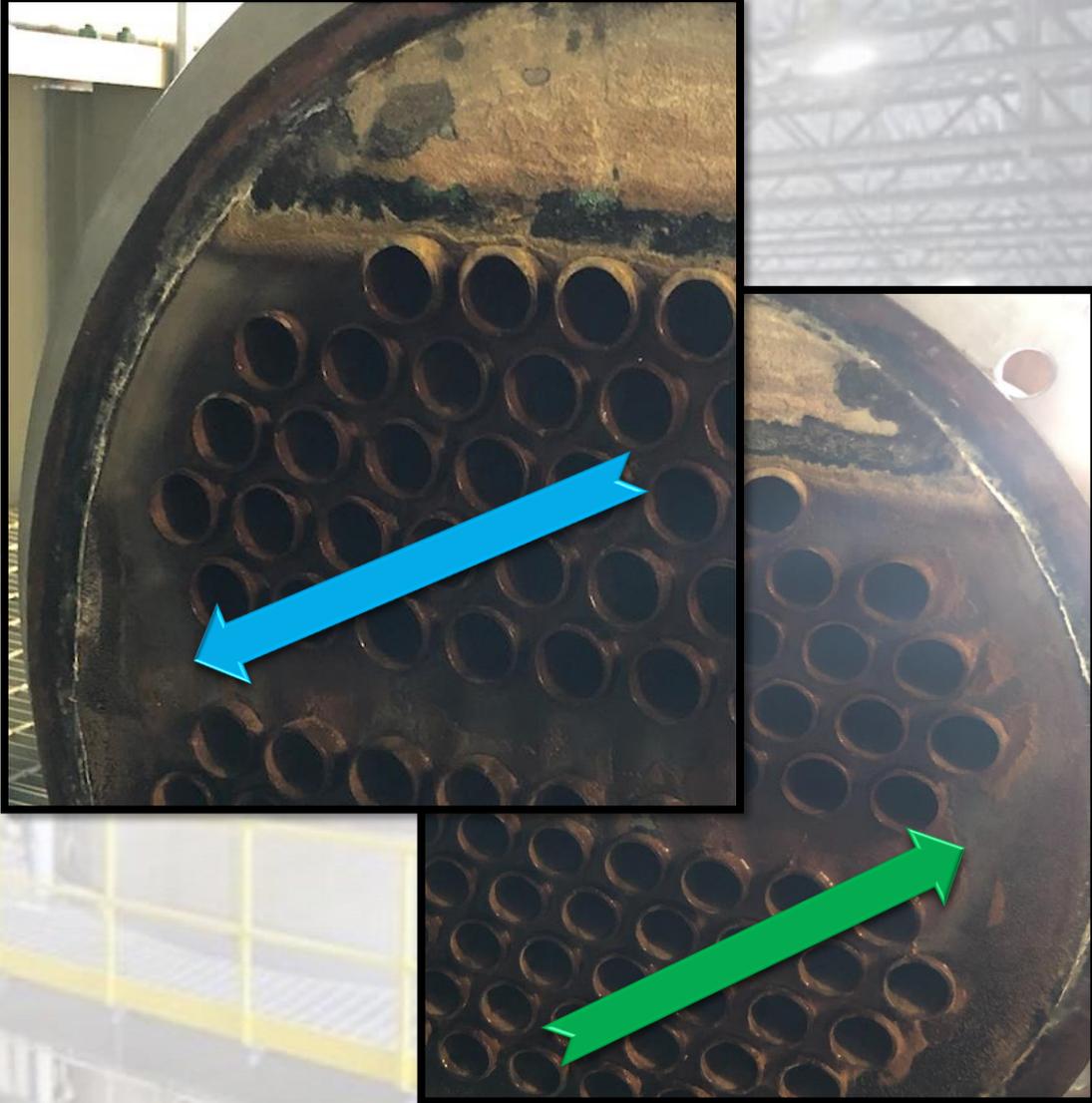
Results - Dephlegmator

Before



Before

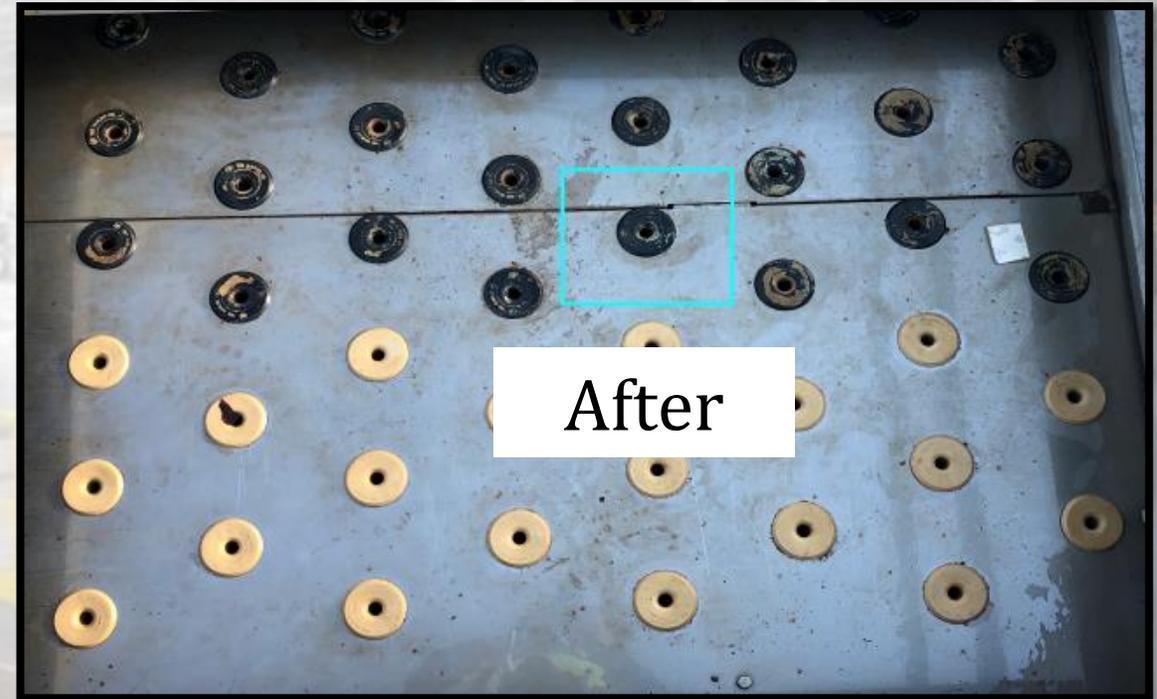
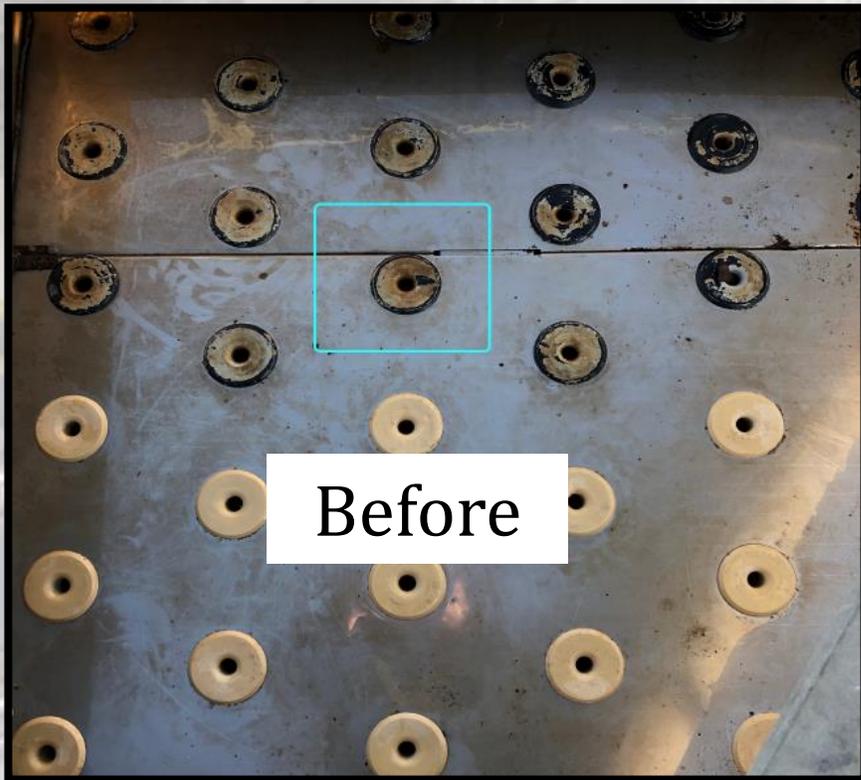
After



After

Results - Cooling Tower

The tan nozzles were recently replaced because they were worn out, the black ones are original. After 6 months of run time, there would normally be hard scale on the nozzles. The black and tan nozzles both show no new scale. The black ones showed removal of existing scale. In addition, biofilm on infrastructure surfaces and in the recirculating water significantly decreased.



For additional information contact: Bob Soffel (bob@ces.works)