



Refinery - Desalter System

Gulf Coast Refinery, USA

Problem

Black powder contamination prevented the desalter system from efficiently purifying process water; rather, the facility required expensive, deep well injection of the crude-contaminated water. The Pentair system had been increased to 25 microns in order to get a 5-8 day cleaning schedule, at a cost of \$13,000 per element change out and disposal. As a result, the Pentair unit was unable to protect the MycelX VOC, rendering it out of service.

Solution

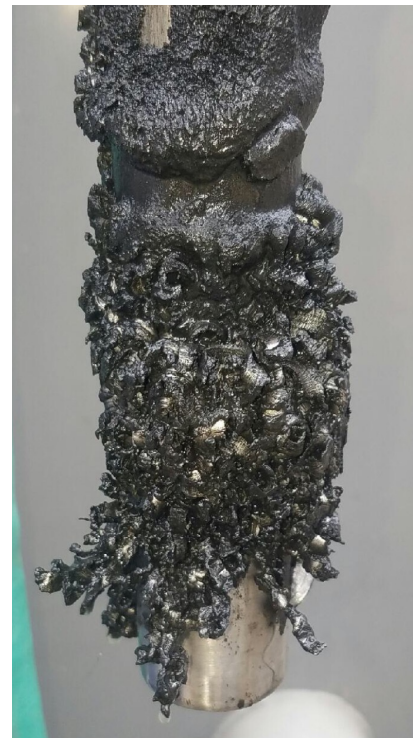
Install parallel, dual-inline magnetic separators between the desalter vessel and water tanks, prior to the Pentair system. This system is designed for continuous filtration during cleaning.

Results

After initial installation, the systems caught ~24 lbs/day of black powder. With magnetic separator protection, the Pentair filter was changed to a 5 micron polishing filter. Pentair filter change outs have extended to 130 days, eliminating 65 change-outs annually. The levels of solids loading dropped significantly, allowing the MycelX unit to operate.

Currently systems catch ~20 lbs/day of black powder.

Total Annual
Equipment Cost Savings
\$2,000,000



Black powder collected on the first magnetic separator element after 18 hours of operation.