

Refinery Desalter System

Update May 2021: BPS Technology reduces OPEX and ESG Risk. ROI obtained in first seven days, and the Magnetic Separator is still providing continuous service.

Gulf Coast, USA

FIRST YEAR
SAVINGS

\$1.85 MILLION USD

Problem

The MycelX Desalter system was failing due to Black Powder contamination, costing \$100,000 USD per month in hydrocarbon contaminated water disposal. A Pentair system was installed upstream of the MycelX system, but was ineffective in removing Black Powder. In order to save costs, single use Pentair filters were changed from 10 microns to 30 microns filter size to extend change-out cycles to 7 days. The cost of each filter element change-out was \$13,000 USD, including disposal.

The traditional media filters were unable to protect the MycelX, rendering it out of service.

Solution

Install 2 Magnetic Separators – 1 on the desalter water line downstream of the settling tank, and 1 upstream of the Pentair filter and MycelX systems.

Results

The Pentair filter elements and MycelX systems were removed from the system in the second year as they were no longer required. The Magnetic Separator units are currently operating successfully after 5 years providing continuous reduction of OPEX costs.



Figure 1. Black Powder collected on the first Magnetic Separator element after 18 hours of operation.