Case study

ALCHEMIA contaminant removal solution turned unsellable fuel into profitable product

The operators of a refinery, which had just begun processing low-sulfur Bakken shale, thought the low-sulfur content of the oil would allow the refinery to produce excellent low-sulfur jet fuel while bypassing a significant portion of the hydrotreating process. Unfortunately the resulting fuel was both wet and failed to meet the JFTOT test for stability. To mitigate the potential economic loss, the refiner asked Baker Hughes for help. After analyzing the jet fuel, Baker Hughes recommended using ALCHEMIA™ contaminant removal solution to bring the fuel back on spec. The solution consisted of coalescing, salt drying, and clay filtration.

The customer agreed, and the off-specification jet fuel was processed through the filtration system. The filtered fuel met all required specifications after processing. The refinery recovered lost revenue from the unsalable product and avoided increased operating expense resulting from storage and reprocessing of the off-spec fuel.

Based on the success, the customer expanded the ALCHEMIA contaminant removal solution to their diesel stream and has realized an overall return on investment exceeding 15 to 1.

Challenges

- Refinery processing low-sulfur Bakken shale oil
- Out of specification jet fuel

Results

- Brought jet fuel into specification
- Delivered cost-effective solution to turn unsellable fuel into profitable product