

Chemical Technology Improves Effectiveness of Sludge Handling And Cuts Cost for Refinery

Problem

A major West Coast refinery was faced with a deadline for cleaning up an API separator. 20,000 bbl of sludge deposited in the separator consisted primarily of API sludge and DAF skimmings. The mixture resisted separation with centrifuge provided by a contractor even at high polymer concentrations.

Solution

A sample composited from several locations in the basin and analyzed by centrifuge gave the following results:

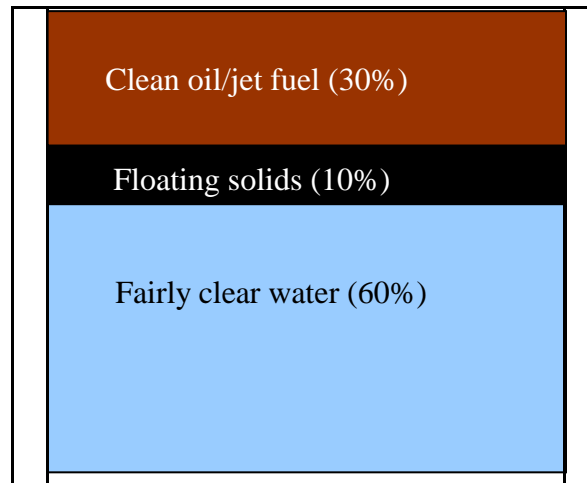


In the bottle test, **RECOVEROL* ECO 3NH** mixed with 10-15% jet fuel (or other light material) released oil-free solids and recovered clean oil within a few hours. The bottoms layer was non-sludgy and entrained only 1-2% oil.

Results

The sludge was pumped from the separator basin into a series of Baker tanks, from which it was transferred to a settling tank. During the transfer, jet fuel and ECO 3NH were added at a T-junction upstream of the transfer pump. Samples of sludge taken downstream of the pump showed immediate emulsion destabilization, solids de-wetting, and oil release.

The treated mixture separated into 3 layers within a few days, as follows:



Oil recovery was in excess of 90% and oil quality greater than 99.5%.