



# Refinery Dehydrates Wet Crude Without Heat

### *Problem*

A refinery in the Pacific Northwest received a shipment of light crude from overseas, which had become accidentally contaminated with a heavy residue, and with water during a storm. In total, 4000,000 bbl of wet crude were allowed to settle and some free water was drained off. A middle layer of 50,000-80,000 bbl of emulsion required treatment, but most of the chemicals tested proved inadequate.

### *Solution*

A sample of emulsion from the "rag" layer analyzed as follows:

- 75% water
- 1% solids
- 24% emulsified oil

RECOVEROL\* ECO 3NH at 500-1000 ppm, without any heating, rapidly dropped clear, oil-free water, and gave clean oil and virtually no interface.

### *Results*

A bulk shipment of ECO 3NH was dispatched within a few days of receiving instructions. It was added at the pump during transfer of the emulsion from the holding tank to a settling tank. Samples taken just downstream of the injection point showed instant separation of oil and water.

Except for a few interruptions, the transfer proceeded smoothly until most of the emulsion was treated. Oil recovery was in excess of 90% and was of a high quality. The separated water was suitable for draining to the effluent plant.

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