

Your sustainability and
productivity partner

RESOLV™ Desalter Management Program

Protecting and optimizing desalter performance
in a more effective and sustainable way



Enhance **unit reliability** by removing solids/contaminants that can affect downstream operations, while maintaining an oil-free brine



Enable **greater flexibility and maximize throughput** in treating a variety of challenging feedstocks



Improve energy efficiency and reduce carbon emissions through improved dehydration efficiency and reduced fouling

- Customizable and broad selection of desalting programs at over 370 customer locations worldwide
- Proven desalter field performance, with on-site expertise for continuous improvement
- 90+ years of innovation with extensive experience treating a wide variety of opportunity crudes



Desalter Technology with RESOLV™

Crude Unit Feedstock Pretreatment	Primary Emulsion Breakers	Adjunct and Overlay Emulsion Breakers	Contaminants Removal +
- Asphaltene stabilizer - Tank dehydration - Slop treatment	Next-generation emulsion breakers with proprietary technology	Novel approach - Improve solids handling - Improve brine effluent quality	Contaminant removal Iron, Calcium and Tramp amine removal

Nalco Water Contaminant Removal Program With Asset Integrity

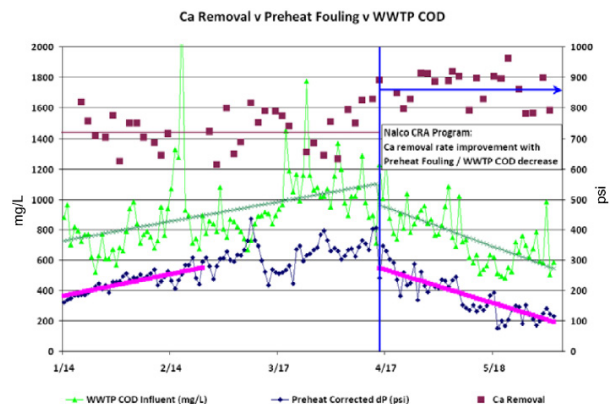
SUCCESS STORY 1¹

High-performance calcium removal generates more than \$15M annual savings for a US refinery.

Total Value Delivered: \$15.75M/year

Customer benefits:

- Calcium removal rates of >85%
- No fouling in the hot preheat of the unit
- Reduction in overhead neutralizer rates of >50%
- No issues in the wastewater plant
- Reduction in catalyst poisons at the RCU and improved fuel oil quality



The figure above shows how the RESOLV program delivered increased calcium removal rates and decreased preheat fouling rates, while causing minimal impact to WWTP COD influent levels.

SUCCESS STORY 2

Desalter treatment extends a US refinery's run length to turnaround, delivering \$3.1M in total value.

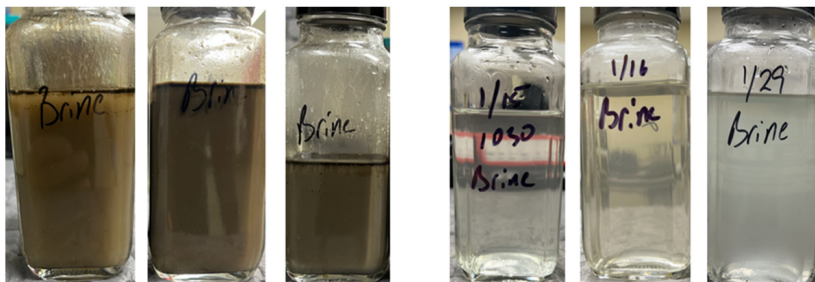
A Gulf Coast refinery faced a grid failure in the desalter while processing highly variable crude slates, leading to sub-optimal salt and water removal. Nalco Water implemented its high-performance RESOLV™ pH management program, improving brine quality and restoring optimal performance.

Total Value Delivered: \$3.1M/year

- 10.3 MMgal Wastewater improved to in-spec for disposal,
- \$1.3M waste management cost reduction,
- \$1.8M prevented production loss

Customer benefits:

- Desalting efficiency restored at >90%
- Prevented unit shutdown
- Wastewater restored to quality



Before RESOLV

After RESOLV

Images show the immediate impact of the RESOLV contaminant removal program to effluent brine quality during an upset.

¹ Source: Case Study CH-912 (2024)

The results in these success stories are specific to these individual customers. Results will vary for other customers based on factors and circumstances in their operations.