



## THE CHALLENGE

Twisted tube designed heat exchangers are exceptionally difficult to clean. This particular fouling process is extra challenging due to the steam in the tube side which bakes the bitumen on to the shell side faster than other designs.

This heat exchanger was brought to ABSOLUTE after a previous service provider was not successful in their attempt to clean it. When previously cleaned and left out in warm ambient temperatures, the remaining bitumen left in the core would leak from the inner core.

## BEFORE: HEAT EXCHANGER SPECIFICATIONS

Type of Asset: Heat Exchanger

Material: Carbon Steel / Coated

Size: 10 feet long , 64"

Arrival Weight: 30,000 lbs

Design: Twisted Tube

Fouling / Process: Tube- Steam / Shell- Bitumen

# of Tubes: 2193

Outer Tube Dimension: 1"

## THE SOLUTION

ABSOLUTE submerged the exchanger in our proprietary solvent for 6 hours. Not consuming any water and using no harsh chemicals that required deep-well disposal after, this bundle came out shiny and clean.

We removed the exchanger from the solvent and let it sit in the sun over a period of time to see if any bitumen was left on the inner core and would run out on to the outer shell. The results showed it was cleaned to the core.

## AFTER: BENEFITS & RESULTS

Fouling Removed: 2,000 lbs

Time Cleaned: 6 hours

Est. Time Saved: 24 man hours

Return Weight: 28,000 lbs

Inspection Standard: -

✓ No water consumed