



## THE CHALLENGE

This heat exchanger had a combination of bitumen and coke on the tube side and process steam on the shell side. The client confirmed this type of fouling typically took 8-11 days to clean. Thousand of gallons of water was used to remove this type of fouling with limited success. There was limited water capacity onsite which caused an additional logistical constraint.

Over 25% of the exchanger was completely plugged with coke. This combination of fouling is difficult to clean to the binding. Current methods were hazardous and labour intensive.

## BEFORE: HEAT EXCHANGER SPECIFICATIONS

Type of Asset: Heat Exchanger

Material: Carbon Steel

Size: 20 feet long, 4'- 6 5/8" diameter

Arrival Weight: 41,500 lbs

Design: Straight Tube Exchanger

Fouling / Process: Tube- Vac Bottom / Shell- Boiler Feed Water

# of Tubes: 1,056 tubes

Outer Tube Dimension: 1"

## THE SOLUTION

ABSOLUTE's processes set a new standard previously never achieved before by safely removing 3,500 lbs of fouling in record time. The heat exchanger was cleaned and passed full inspection within 36 hours, which is 63% faster than their current provider.

Phase 1 removed all bitumen fouling. This was completed within 12 hours. We engaged a 3rd party to carry out the second phase which required minimal high pressure water, which was contained and recycled. This was completed within 24 hours.

## AFTER: BENEFITS & RESULTS

Fouling Removed: 3,500 lbs

Time Cleaned: 36 hours

Est. Time Saved: 228 man hours

Return Weight: 38,000 lbs

Inspection Standard: Process

✓ No water consumed during Phase 1

✓ All water used in Phase 2 was recycled