

## Challenge

### Issue

Flow from pump reduced from 8,000 to 4,500 T/h, and discharge pressure reduced from 6 to 3.5 bar within one year—impacting absorber efficiency.

### Goals

- Restore efficiency of the pumps
- Increase MTBR
- Reduce cost of spare parts inventory

### Root Cause

15% limestone slurry with high chloride level at 70,000 ppm attacks stainless steel welded parts.

## Solution

### Preparation

- Weld plates to impeller vanes
- Decontaminate surface
- Grit blast to Sa 2.5 with 3 mil (75 µm) angular profile

### Application

1. Apply **ARC MX1** @ 500-1000 mil (6-12 mm) to restore original dimensions
2. Apply **ARC 855** @ 30 mil (750 µm)
3. Balance impeller

## Results

### Client Reported

- Discharge pressure increased from 3.5 to 5.2 bar and flow increased from 4,500 to 7,200 T/h
- Pump life now >1 year with minor repairs required to return to service

### Estimated savings:

New impeller:	\$ 35,000
<b>ARC repair:</b>	<b>\$ 9,000</b>
Savings:	\$ 26,000
Total estimated savings 16 pumps:	\$416,000

\$=USD



Impellers after <12 months



Weld repairs to the impeller vanes



Casing after 12 months with ARC showing a small area requiring repair at the cutwater