

Challenge

Issue

Loss of pump efficiency within 6 months reduces tailings disposal capacity, requiring additional pumps to be brought online.

Goals

- Maintain efficiency to meet required tailings disposal rate
- Extend MTBR of pump and reduce associated maintenance cost

Root Cause

High velocity solids concentrations wore away >0.5" (>12.7 mm) of wet end.



Worn pump casing

Solution

Preparation

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

Application

1. Apply **ARC MX1** to areas with loss >240 mil (6 mm)
2. Apply **ARC BX2*** to areas with loss <240 mil (6 mm)
3. Brush on **ARC 855** @ 10 mils (250 µm)

*ARC BX2 is the "Bulk" package size of ARC 897



ARC BX2* and ARC MX1 with a top coat of ARC 855

Results

Client Reported

- ARC-coated pumps extending MTBR to >12 months
- Minimal repairs required, and pumps easily returned to service within 72 hours

Repair Costs

- Annual spare parts replacement: \$31,272
- **ARC repair:** -\$17,568
- Annual savings per pump: \$13,704

\$=USD



Volute after 6 months of runtime