

Challenge

Issue

An inefficiently operating pump required unscheduled bi-monthly shutdown to replace the wear plate. Annual costs were \$21K per year.

Goals

- Improve efficiency and extend the MTBR of this pump
- Increase productivity

Root Cause

Abrasive wear of the pump wear plate from the iron powder slurry. The severe wear was a key source of the inefficiency.



Worn pump cover

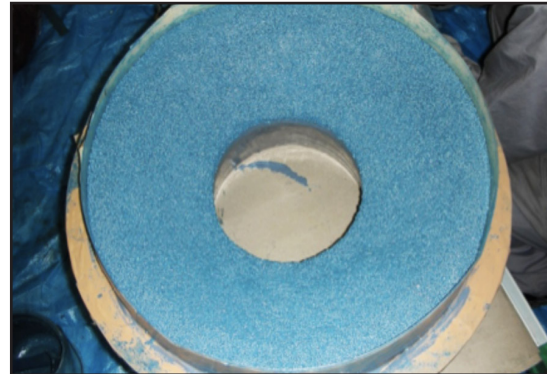
Solution

Preparation

- Machine back .240" (6 mm) off wear plate
- Abrasive blast to Sa 2.5 with 3 mil (75 µm) angular profile

Application

1. Apply **ARC MX1** and machine to exact tolerance using diamond tooling



Repaired cover

Results

Performance

ARC MX1 protected wear plate installed in March 2009. Client reports original repair in service in 2014 (5 years).

Client Reported Cost

New cover cost:	\$ 2.0K
Cost of maintenance:	\$ 1.5K
Total bi-monthly:	\$ 3.5K
Annualized Total:	\$ 24.5K

Cost Savings After ARC

ARC Repair (materials and labor):	\$ -3.5K
Total 5 year savings:	\$105.0K

\$=USD



Installing coated cover with damaged cover in foreground