# **Split Case Slurry Pump**

Mining/Mineral & Ore Processing — Refining ARC MX1 & 855 Coatings Case Study 111

# Challenge

#### Issue

Pump performance degraded by 30% after 5,000 hours' operation, resulting in low flow to reactor. Plant production reduced.

#### Goals

- Improve efficiency by 30%
- Prevent further abrasion and chemical attack
- Eliminate the purchase of new high alloy pumps

#### **Root Cause**

High pH alumina hydrate slurry wears ductile iron pump.



Prepared pump case

# **Solution**

### **Preparation**

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

## **Application**

- Apply ARC MX1 to areas of severe abrasion @ 500 mils (12 mm)
- 2. Apply 2 coats of ARC 855 @ 60 mil (1500 μm)



Prepared impeller

# **Results**

### **Client Reported**

- Previous loss of efficiency: 30% in 5,000 hours
- ARC coated pump loss of efficiency: 10% in 8,000 hours
- Pumps scrapped at 5,000 hours required \$20,000 pump replacement
- Coated pumps easily repaired and returned to service

#### \$=USD



Impeller protected with ARC 855