

## Challenge

### Issue

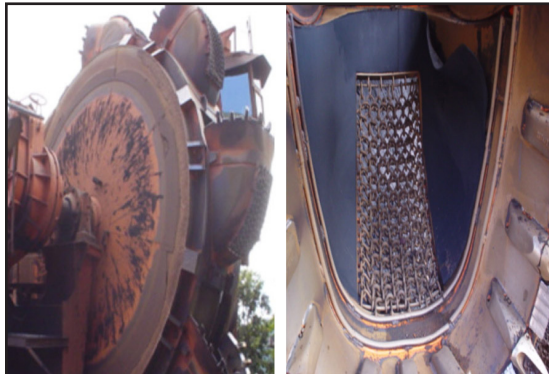
Boarder buckets on continuous excavator were wearing out in less than 6 months resulting in lost production and increased maintenance costs. Traditional weld repair resulted in stress fatigue failure.

### Goals

Client sought to extend MTBR by a factor of 2X and eliminate heat-associated stress fatigue.

### Root Cause

Heat-related stress fatigue was weakening grain boundaries, leading to cracks and accelerated abrasive wear.



Repair life of 6 months with hard face welding

## Solution

### Preparation

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

### Application

- Apply **ARC BX1\*** at an average thickness of 6-8 mm (250-320 mils) only to the regions exposed to sliding abrasion.

*\*ARC BX1 is the "Bulk" package size of ARC 890*



ARC coating applied to the boarders between the teeth

## Results

### Client Reported

- Heat related stress fatigue minimized by using ARC
- Service life increased from 6 to >12 months
- At 20-month maintenance period 5 kg of ARC was used to repair localized damage
- ARC coating has been applied to three more excavators in same manner at this mine site



After 20 months only 5 kg of ARC was needed for repair