

Challenge

Sealing pumps in a mining operation is always a difficult task. Operating and equipment conditions vary significantly, and aggressive chemicals and slurries will have an impact on sealing options and pump reliability.

Compression packing provided only 10 days of service life in this iron mine and required frequent packing sleeve replacements—costing \$24,000/yr and excessive equipment downtime.

The mine experimented with a few types of mechanical seals, but seals failed in a few days. **The operation wanted to improve equipment reliability.**

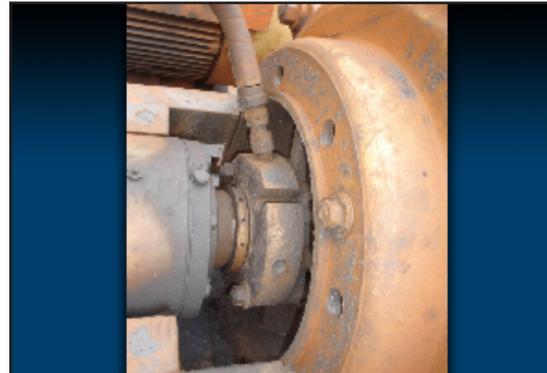


Before: Pump leaked excessively.

Solution

Chesterton 180™ Heavy Duty Single Cartridge Seal with a SpiralTrac™ Environmental Controller.

- The **Chesterton SpiralTrac** uses the rotational force of the pump shaft to impart a “flow” away from the seal—keeping particulates out of the stuffing box.
- The Chesterton solution reduced flush from 56 liters per minute (14.8 gpm) down to 20 liters per minute (5.3 gpm).
- Approximately 70 pumps, both high pressure and low pressure, were eventually converted to **Chesterton 180** or **Chesterton S10 Seals**.



After: Pump sealed with Chesterton 180 and SpiralTrac Environmental Controller.

Results

Increased seal life to 7+ months. Mechanical seals installed by 2 other competitors only lasted 2 days!

- **Seal savings:** Approaching 1 year service life or \$9,600 per pump.
- **ROI:** 7.2 months, not including the water savings from the reduced flush requirements.
- **Water savings:** 4,993,200 liters per year (1,319,207 U.S gallons per year).

\$=USD



Chesterton 180 Heavy Duty Single Cartridge Seal.

SpiralTrac™ is a trademark of EnviroSeal Engineering Products Limited.

Technical data reflects results of laboratory tests and is intended to indicate general characteristics only.

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