

Case Study: FLOOD-GARD™ Bearing Isolator- Mining



INDUSTRY

Mining

CUSTOMER

Large Aggregate Producer

BACKGROUND

A large amount of airborne granite dust led to shaft grooving on the primary conveyor gearbox at a large quarry in the Southeastern United States. The lip seals that came installed on the gearbox from the original equipment manufacturer collected granite dust and other contaminants under their sealing lip surface, leading to shaft grooving, leakage and eventually a costly rebuild.

CHALLENGES FACED

The customer had been using lip seals which lasted approximately 8-9 months, and a competitor's magnet based Bearing Isolator fared no better. Poor seal performance led to continual seal replacement, repeated down time and oil leakage which caused safety and environmental concerns. This gearbox was at the heart of the quarry's operation and without a spare gearbox available, unplanned downtime and cost to the plant was substantial.

OPERATING CONDITIONS

Application: Primary Conveyor Gearbox

Seal Location: The input shaft, well below the center line of the gearbox, creating a flooded condition

Pressure: Minimal, created by a head of oil

SOLUTION AND BENEFITS

Garlock recommended our FLOOD-GARD™ bearing isolator, which offers the benefits of bearing isolator technology for flooded applications. Its non-contact design mitigated the impact of years of shaft grooving by lip seals, without the need for a costly rebuild, input shaft and pinion replacement, paralyzing the quarry in the process. Its superior design has outlasted conventional lip seals in this application by more than 2 to 1, and alleviated the continual damage caused by airborne contaminants. The savings in rebuild costs exceed \$20,000, not to mention over 6 hours of downtime. In addition, by eliminating the need to rebuild the gearbox due to seal failure/damage, a significant safety issue has been mitigated, each rebuild required using a crane to remove the gearbox from its tower to lower it down to the maintenance staff.

For more information, please visit:
<http://www.garlock.com>