

MINING, TUNNELING & QUARRYING

Quick STUDY

Hydra-Cell®
Seal-less Pumps

www.Hydra-Cell.com

Location:	United States
Application:	High-pressure cleaning of conveyor belts
Media:	• Water
Model No.:	D35XKBTHFECA
Flow Rate:	35 gpm (130 l/min)
Pressure:	1200 psi (83 bar)
Hydra-Cell Advantages:	• Seal-less design • High-pressure performance • Ability to handle water with abrasive solids



Cleaning Rock Conveyors at a Copper Mine

An opencast copper mine was spending an estimated \$10,000 USD per year for blade replacements for each of its conveyor cleaners. The conveyors, up to 3/4-mile (1.2 km) long, carry crushed ore to acid separation fields. The function of the blades, which are 6-ft. (1.3m) wide and several inches thick, is to remove constantly accumulating residual dirt and rock dust from the belts. This process proved ineffective and expensive, as the blades were subject to failure due to wear from the abrasive nature of the rocks.

Mine engineers called in pumping specialists from a Hydra-Cell distributor for advice. Together they determined that spraying high pressure water onto the conveyors would aid in the effectiveness of the blades and remove the larger, more damaging pieces of rock. The skid-mounted systems supplied featured Hydra-Cell D35 pumps with brass heads and Buna-N diaphragms.

The pumping systems are still in use after several years in service - saving not only the cost of replacement wiper blades, but also extending the life of rollers under the conveyor. These costly components were previously subject to frequent failure due to rock dust getting into the bearings and an added advantage of the high pressure water was dampening the dust.



Characteristics of Fluid Pumped:

☒ Contains Abrasives ☐ Corrosive ☒ Solids in Suspension ☐ High-temp. (>158°F/70°C) ☒ Non-lubricating ☐ High-viscosity (>500 cPs)