



ENVIRONMENTAL TECHNOLOGY

Mechanical seals reduce maintenance, improve safety and production efficiency while reducing water consumption

The slurry tailing pumps at a potash mine were experiencing bearing failure due to ingress of tailings into the bearing frames. The pumps were sealed with Gland Packing and flushed with water. In addition to bearing damage, large volumes of water around the pump were giving safety concerns. Mean time between failure for this pump was 3 months.

AESSEAL® recommended a CDPH dual slurry seal in place of the gland packing. Installing this seal eliminated the use of flush water, prevented leakage into the bearing frame and large volumes of water around the pump were no longer an issue. The reliability of the pump was increased significantly to 2 years from the 3 months previously achieved.

The CDPH seal is specifically designed for sealing slurries in the large pumps typically found in tailing applications. It is hydraulically balanced ensuring that process upset condition can be withstood. It is designed with large clearances and springs that are kept away from the process media to avoid clogging.

Other opportunities at a potash mine include the Flotation Tower pumps. The potash manufacturing process prior to crushing uses saturated brine to process the ore and remove insoluble minerals. Saturated brine is used because it will not dissolve potash solids. Introduction of water into the process at this stage dissolves potash solids and reduces the potash yield – for each gallon of water added to the process 1 lb / 450g potash is dissolved.

The potash mine flotation tower pumps were sealed with gland packing that was flushed with water. The water was entering the process causing a quantity of potash to be dissolved. To prevent this AESSEAL® recommended the installation of a CDSA™ dual mechanical seal. The seal prevented leakage of water into the process thereby improving the potash yield.

“Reducing slurry pump water consumption”

Industry:	Mining
Product:	CDPH & CDSA
Application:	Slurry Pump
MTBF Improved:	3 months to 2 years
Reference N.O:	CH00063 & CH00064



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