



CLIENT:

Major Coal Mine

LOCATION:

NSW

PROJECT:

Verico conduct routine condition monitoring for a major NSW coal mine.

Vibration surveys detected ongoing bearing faults in a pump motor at their Coal Handling Preparation Plant.

Verico used motion amplification to investigate and diagnose the problem, reducing down time and possible replacement of equipment.

PROJECT

A pump motor at a coal handling preparation plant had been experiencing ongoing bearing issues and frequent failures, where in one instance the motor had been in service for 2 months before failing. Multiple motor changeouts had been carried out without the problem being resolved.

After stripping down the failed motor, signs of brinelling were found in the bearings. This is caused by either an excessive load creating indentation on the bearing raceway, or external vibration causing the bearing rollers to rub against the raceway while the machine is not operating. In this instance, there was initially no single obvious cause for the brinelling.

Verico's vibration surveys indicated that high running speed vibration across the motor was evident and there was severe impacting in the inboard bearing.

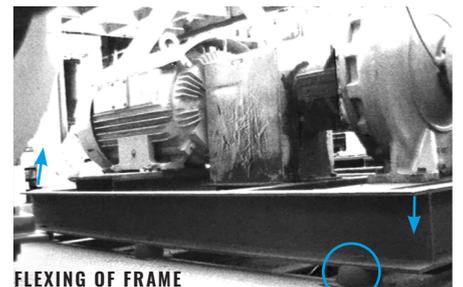
OUTCOMES

The use of motion amplification technology helped identify unwanted movement, including any possible

causes for brinelling. The benefit of this technology is that it visually amplifies movement and vibration so that it can easily be seen in a video format. The motion amplification video revealed that the frame was flexing significantly and that the rubbers supporting the frame were worn. After replacing the rubbers, the vibration levels and the flexing of the frame was significantly reduced.

Verico's combination of monitoring and testing techniques helps support Asset Managers to make informed maintenance decisions and minimise the downtime experienced by operations. Problems can be quickly identified and rectified when using the appropriate technology.

40X MOTION AMPLIFICATION



FLEXING OF FRAME

WORN RUBBERS