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Getting closer to your business

CALTEX REDUCES UNNECESSARY DOWNTIME FOR OPEN PIT COAL MINE CONVEYER SYSTEM USING MEROPA® XL 320 GEAR OIL

Meropa® XL 320 gear oil withstands harsh environmental factors to deliver $60,000 per year savings.

THE CHALLENGE

Sahakol Equipment PLC installed a large conveyor system at an open pit coal mine for a customer in Thailand. The conveyor comprised 12 belt lines measuring 12.6km in length, running for 20 hours a day with a production capacity of 27,600 tons per hour. Operating in a challenging environment that comes with open pit coal mining, the conditions resulted in equipment being exposed to extreme outdoor temperatures of 40+ degrees Celsius, all seasonal weather and general outdoor conditions including dust and debris.

Due to operations in such harsh environments, the oil lubricating several gearboxes on the conveyer system began to experience severe foaming, resulting in frequent unplanned shutdowns, impacting production and increased maintenance costs.

COMPANY:
Sahakol Equipment PLC

LOCATION:
Mae Moh District, Lampang, Thailand

APPLICATION:
Coal Pit conveyer system gear box lubrication

EQUIPMENT:
Conveyer Belt gear box – Siemens Flender B3 SH gear unit, 1750kW

SOLUTION:
Meropa® XL 320 gear oil



THE RESULTS

Since implementation, the site has not experienced any recurrence of unplanned shutdowns in the 40 conveyer system gearboxes that have been using Meropa XL 320 since June 2021, and displayed no signs of foaming.

The Caltex LubeWatch oil monitoring programme showed that Meropa® XL 320 has successfully extended oil life by over 250% from – 4,000 hours up to 10,000 hours – whilst still maintaining acceptable oil quality for the application.

Overall, Sahakol have saved $60,000 per year (based on 8,000 hours per year operating hours) by implementing Caltex Meropa® XL 320 and monitoring using LubeWatch and no longer facing unplanned shutdowns.

Successfully extends oil life by 250%

Reduced unscheduled shutdowns

$60,000 per year savings

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SOLUTIONS DEPLOYED

Caltex Meropa® XL 320 gear oil

Meropa XL 320 is a high performance extreme pressure gear oil, designed for industrial and marine gear systems where extreme load and shock load protection is required. It is particularly recommended for industrial enclosed gearings where an AGMA EP or DIN 51517 (CLP) lubricant is specified.

Caltex Advisory Service

Operating and maintaining today's equipment is more complex and expensive than before, and lubrication requirements are constantly changing. The path to higher efficiency and productivity can start with a Caltex Best-in-Class assessment. Our Caltex Advisory team can perform an in-depth diagnosis on your operational needs and gaps, and provide holistic insights on how and where your business can improve, to help you achieve happier outcomes for your operations.

Caltex LubeWatch oil monitoring programme

Caltex LubeWatch oil analysis enables you to track the performance of fleet vehicles and equipment that is the lifeblood of your business. Through regular oil analysis, vehicle and equipment life and oil replacement intervals can be optimised and lubricant needs can be identified, and the changing environment within the equipment can be monitored.

THE RECOMMENDATION

Working closely with the local distributor and the operator, the in-country Caltex Advisory team recommended the use of the Caltex Meropa® XL 320 gear oil as a solution to this issue.

The Caltex Meropa® XL 320 gear oil is designed for high load industrial gears and offers excellent load capability, wear protection and micropitting performance. The robust design helps to ensure consistent performance over an extended period and throughout the oil's lifetime.





Additionally, a comprehensive Caltex LubeWatch oil monitoring programme was implemented to ensure suitable gearbox flushing, contamination control and quarterly in-service oil analysis during operation. A preventative maintenance plan was also implemented to support on-site equipment utilization and this was carried out over a year to establish on-going performance.

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