

# Cold corrosion eliminated. Engine performance optimised.

Wärtsilä RT Flex 82-T



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Mobilgard™ 5100 cylinder oil, in combination with the Mobil Serv™ Cylinder Condition Monitoring service, drove major efficiencies by controlling cold corrosion, helping improve engine performance and cutting cylinder oil feed rates.

## Situation

With market conditions continuing to challenge operators, the discovery of severe cold corrosion in the Wärtsilä RT Flex 82-T engine of a container vessel was a major concern. Despite using a 70 BN cylinder oil at an elevated feed rate of 1.3g/kWh, low residual BN levels had resulted in peeling of the chrome coating on the piston rings. This was causing costly, detrimental liner wear and scuffing. The vessel, which was operating at between 20 and 60 per cent of maximum continuous rating, was running heavy fuel oil with an average sulphur content of between 2.3 and 3.4 per cent.

## Recommendation

Onboard trials were conducted by ExxonMobil engineers who implemented the Mobil Serv™ Cylinder Condition Monitoring service, a proactive tool for the management of slow-speed cylinder lubrication. When used in conjunction with MobilGard™ cylinder oils, Mobil Serv Cylinder Condition Monitoring can help operators optimise lubricant feed rates.

A switch to Mobilgard™ 5100, a 100 BN cylinder oil, was recommended. The oil is proven to provide protection to slow-speed, two-stroke marine engines running on high-sulphur fuel.

## Impact

The change to Mobilgard 5100 cylinder oil helped improve engine performance, increase vessel reliability and ultimately, reduce running and repair costs. Switching to the 100 BN lubricant mitigated cold corrosion and contributed to excellent engine cleanliness. It also resulted in a valuable savings in cylinder oil consumption – the feed rate was reduced by 34 per cent compared to previous performance. Piston rings and piston ring top lands showed significantly reduced deposits, while low iron levels in scrape down samples indicated minimal liner wear. As a result, maintenance expenditure was cut, and the time between engine overhauls was extended.

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Switching lubricants helped improve engine performance and cleanliness, mitigate cold corrosion, and increase vessel reliability.

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