Shell Marine

SHELL LUBEMONITOR HELPS VESSEL SAVE US$39,000 A YEAR[1]

COMPANY: Ningbo Marine Group Co., Ltd

APPLICATION: Main engine

VESSEL: Bulk carrier

KEY EDGE: Shell LubeMonitor, Shell LubeAdvisor, Shell Alexia S6

Ningbo Marine Group Co., Ltd is a Chinese coastal fleet company with a fleet capacity of about 120 Mt. The 49,500-dwt bulk carrier *Ming Zhou 501*, which was built in November 2016, carries mostly coal and sand along the coast of Zhejiang Province into the Bohai Gulf. The ship's main engine burns marine fuel oil with a sulphur content of 1.7%. Ningbo Marine wants to protect its investment in the vessel and wanted to use a more energy-efficient, environmentally friendly and lower-cost engine lubricant, so turned to Shell for advice.

By using the Shell LubeMonitor service, the Shell Marine technical team found that the residual base number (BN) of the cylinder drain oil was relatively high. In addition, an on-site engine inspection using the Shell LubeExpert service revealed severe piston crown deposits suggesting overlubrication.

Continued use of the BN100 cylinder oil, Shell Alexia S6, was recommended along with gradually reducing the oil feed rate from 1.3 to 0.9 g/kWh based on the fuels in use. Under piston inspection revealed that piston crown condition was better with minimal deposits and minimal sludge in the scavenge space. Shell Alexia S6 is designed for engines burning fuel with sulphur levels above 1.0% and to help prevent cold corrosion.

BETTER ENGINE RELIABILITY SAVES US$39,000/y[1]

[1]The savings indicated are specific to the calculation date and mentioned site. These calculations may vary from site to site and from time to time, depending on, for example, the application, the operating conditions, the current products being used, the condition of the equipment and the maintenance practices.

Ningbo Marine reports a reduction in the bulk carrier's annual cylinder oil consumption from 25,000 to 12,600 l/y for cost savings of US$39,000 a year.[1] The operational benefits also include lower wear rates through better optimisation control.

1 CHALLENGE

Ningbo Marine wants to use a more energy-efficient, environmentally friendly and lower-cost engine lubricant in its bulk carrier, the *Ming Zhou 501*, which burns 1.7% marine fuel oil.

2 SOLUTION

Shell Marine recommended changing to a higher BN cylinder oil, Shell Alexia S6, coupled with Shell LubeMonitor for better optimisation.

3 OUTCOME

The vessel was able to reduce the cylinder oil feed rate from 1.3 to 0.9 g/kWh. Piston undercrown inspections revealed the condition of the cylinder liners to be significantly better since using Shell Alexia S6.

4 VALUE

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SHELL SERVICE

Shell LubeMonitor

A service designed to monitor two- and four-stroke marine engine performance. It includes access to Shell tools and advice to help you strike and maintain an acceptable balance between oil costs and maintenance expenses.

Shell LubeAnalyst

A flexible used-oil laboratory analysis service designed to save you time and money on maintenance resulting from equipment failure. This early-warning system aims to give you peace of mind that your equipment and lubricants are in optimum working order.

Shell LubeAdvisor

This on-site support from a global team of field-based engineers includes lubrication surveys, vessel assessments, and in-depth technical and applications support when required. Back-up support is provided by telephone, fax or email.

SHELL ALEXIA

Shell Alexia

A portfolio of products designed to meet the needs of low-speed, two-stroke engines. Shell Alexia comes with a range of base numbers suitable with any engine, fuel choices or operating conditions.

Contact your Shell Marine account manager to find out more or visit **www.shell.com/marine**.

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