

# Mobilgard™ 5100 oil: Proven protection for engines using low-sulphur HFO

Aegean Bulk | Anna Maria | MAN 6S60ME-C8.2TII



Energy lives here™

ExxonMobil conducted a sea trial of Mobilgard™ 5100 cylinder oil that proved its potential to reduce oil changeovers and simplify engine operation when used with a low-sulphur-content heavy fuel oil (HFO).

## Situation

The MAN 6S60ME-C8.2TII engine on the bulk carrier Anna Maria had been successfully running on HFO with a sulphur content of 2.58 per cent. An inspection of scavenge port oil samples showed that Mobilgard 5100, a 100 BN cylinder oil, was providing appropriate engine protection at a feed rate of 0.78 g/kWh. Both residual BN and iron levels were within acceptable tolerances.

## Recommendation

Switching the Aegean Bulk-operated vessel to a low-sulphur (0.77 per cent) HFO enabled ExxonMobil to test Mobilgard 5100 oil's ability to protect the engine, despite it being primarily designed to operate with high-sulphur fuels. The 670-hour test saw the engine slow steam at 50 per cent maximum continuous rating (MCR). The cylinder oil feed rate remained unchanged.

## Impact

At the trial's conclusion, the operators used Mobil Serv<sup>SM</sup> Lubricant Analysis, a state-of-the-art lubricant analysis programme that enables marine operators to monitor the health of their engines and lubricants. This showed iron content of 15 ppm, down from 63 ppm. It also revealed that residual

BN was 58, only fractionally higher than the 51 BN reported when running the high-sulphur fuel. Scavenge port inspections showed the pistons, rings and liners were all in good condition. Engine designer MAN Diesel & Turbo attended the end-of-trial inspection.

Running a low-sulphur fuel with a high-BN cylinder oil is typically expected to result in a buildup of deposits that can cause severe wear. However, the Mobil Serv Lubricant Analysis evaluation and engine inspection showed conclusively that Mobilgard 5100 oil is capable of providing excellent engine protection when paired with a low-sulphur HFO. This finding has the potential to streamline lubricant inventories and save vessel operators money by simplifying engine operation.

---

Mobilgard 5100 oil provided **excellent engine wear protection** when run with a low-sulphur fuel.

---