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CJC™ Application Study

Reduction Gear

CUSTOMER

Sand-pumping dredger "M/S Viking-R", owned by Rohde Nielsen, Danmark.

OIL SYSTEM

Reintje marine reduction gearboxes, port and starboard.

OIL TYPE

ELF XC 30 gear oil.

FILTER TYPE

CJC™ Fine Filter HDU 15/25 PM

FILTER INSERT

1 off CJC™ type A 15/25 element with a filtration ratio of 3 µm (micron) absolute.

THE TEST

M/S Viking is equipped with two identical Reintje gears. One CJC™ Fine Filter, type HDU 15/25 PM was installed on the starboard gear. Both port and starboard gears were then in operation for 10,000 hours before oil samples were taken from each gear..

A millipore test implies vacuuming 100 ml. of oil diluted with 100 ml. of N-pentane through a 0.45 µm membrane-filter. Below pictures show a x20 enlargement of the membranes from the analysis of the reduction gear oils. At the bottom right corner of the membrane photos the whole of the membranes can be seen.

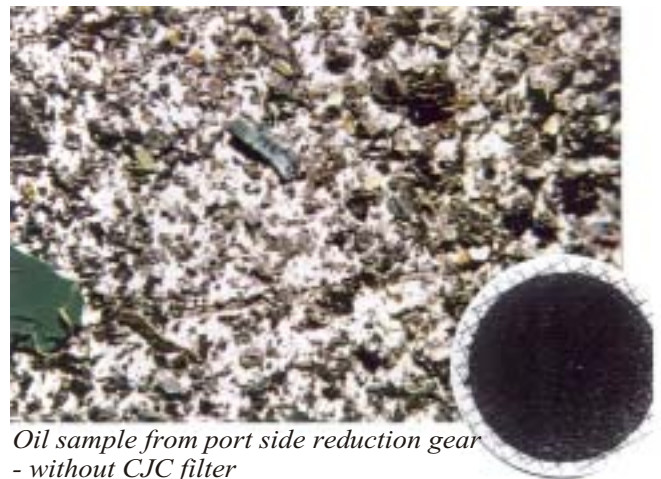
THE RESULTS

The remarkable result of this test is that the intensive particulate contamination clearly visible on the port gear membrane, cannot be found on the starboard gear membrane. Evidently, the CJC™ Fine Filter has removed the metal and paint particles and oxidation residuals, thus reducing the wear and tear of the gearbox bearings and wheels.

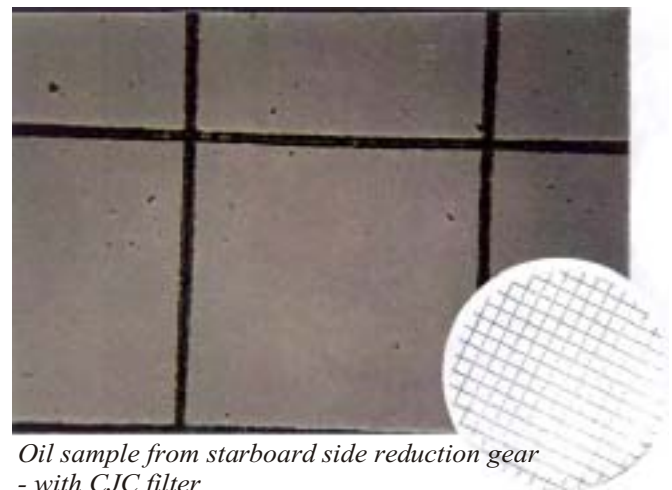
The ultimate result is a considerable - 1) extension of the oil and system component lifetime, and 2) improvement of the operational reliability, which dramatically reduces the risk of unplanned system downtime.



CJC Finfilter HDU 15/25 PM



Oil sample from port side reduction gear - without CJC filter



Oil sample from starboard side reduction gear - with CJC filter



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