



**CLEAN OIL
BRIGHT IDEAS**

CJC™ Application Study

**Application Study
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CUSTOMER

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THE SYSTEM

A 'Delattre-Levevier' ore bucket digger, with slewing bearing gear drives and twin executed gear drives, each powered by Electromotor with 110 kWatt power output. A reduction gear box (4-stages) serves as propulsion to rotate the bucket diggers along the azimuth. Each gear box contains 100 litres of Total Giran L 220 (ISO Vg 220).

THE PROBLEM

As the outdoor application is working under extreme conditions, fine ore particle dust and huge amounts of water have accessed the system. Condensation, precipitation and cleaning of the application with high pressure cleaners lead to very high water content in the gear oil. These contamination sources were not beneficial for the life time of the gear oil, the spherical roller bearings, the gear-teeth and the inner gearbox. Periodical inspections showed rust formations and severe wear of the components. The only remedy was frequent oil changes which proved labourious and expensive.

THE SOLUTION

A CJC™ Filter Separator PTU2 27/27 PV-DE2H1PWY on a drip-tray, with electric preheaters (2x1650 Watt), automatic water discharger and with a pump yield of 60 L/h was installed, using a CJC™ Filter Insert BLAT 27/27 (3 micron absolute).

Due to a harsh working environment the CJC™ Filter is installed in a stainless steel protective box with hatches for easy access and maintenance.

By means of change-over valve the single CJC™ Filter Separator is servicing both the left and the right gearbox at regular intervals.

THE RESULT

Within 40 days, water content was reduced from 62,970 ppm to 29.9 ppm. Particle contamination was reduced dramatically and the condition of the oil recovered. Resin content and oxidation by-products in the oil were removed, adsorbed by the CJC™ Filter Insert BLAT 27/27. The first filter insert was saturated within 4 weeks and had a gross total weight of more than 10 kg. The automatic water discharger empties water from the Filter Separator and thereby maintains the condition of the oil.

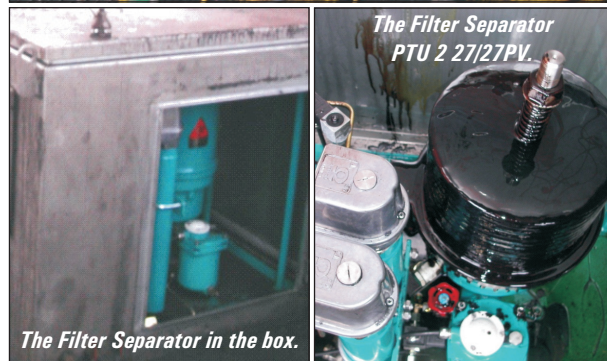
The purpose of installing the CJC™ Filter Separator was to continuously maintain a low water content and remove solid particles and oxidation residuals (resins).



Bucket Digger Application.

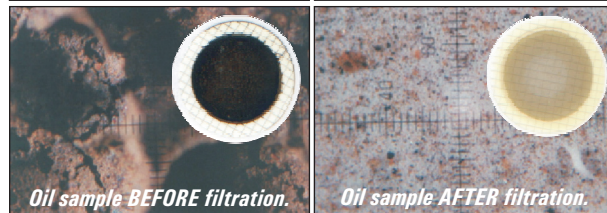


Twin executed slewing bearing gear drive.



The Filter Separator in the box.

*The Filter Separator
PTU 2 27/27PV.*



Oil sample BEFORE filtration.

Oil sample AFTER filtration.

