

Haul Truck, Komatsu 830E, Hydraulic Oil CJC® Oil Filtration

CUSTOMER SAVINGS & BENEFITS

By installing CJC® Oil Filtration solutions, the following benefits were obtained:

- **95% reduction of particle contamination** within the first 2 weeks after installing the oil filter.
- 2 months after installation, particle contamination level had dropped from **ISO 23/21 /15** to **ISO 17/15/11**. The oil had reached over 3,000 operating hours and was still in good chemical condition for further use.
- Usable oil **lifetime extended significantly**, reducing the need for oil change - **\$ 185,000 saved**. It is estimated that the oil lifetime could be increased to **6,000 operating hours** before it needs to be changed.

CUSTOMER

Iron ore mine in Brazil, where the ore is extracted through conventional open-pit mine operations.

SYSTEM

HME type: Haul Truck **Oil type:** 10W Shell
Application: Komatsu 830E **Oil volume:** 946 L
System: Hydraulic system

PROBLEMS

The high contamination level required frequent oil change. Furthermore, contaminated hydraulic oil can reduce the performance and efficiency of hydraulic equipment. It can also cause damage to the internal components of the system, leading to costly repairs or replacement.

SOLUTION

Several Komatsu 830E were fitted with a **CJC® HD HDU 27/27**, with **CJC® Filter Inserts B 27/27**. The oil filter was installed on the cab deck and connected directly to the hydraulic tank in a kidney loop. This form of installation makes the oil filter non-critical to the system – even if the oil filter requires service.

The objective was to reduce the contamination to an OEM acceptable level, and to increase the usable oil lifetime and equipment availability.

FINANCIAL BENEFITS

Extending the usable oil lifetime brings several financial benefits.

Direct cost savings, avoiding to purchase new oil - by estimating an oil lifetime increase from 2,000 hour to 6,000:

- **2,400 L oil / year per truck**
- **74,000 L oil / year for the entire fleet**
- **\$ 185,000 / year in hydraulic oil alone**

In addition, extending oil life results in a reduction for labor and maintenance time and increase equipment availability.

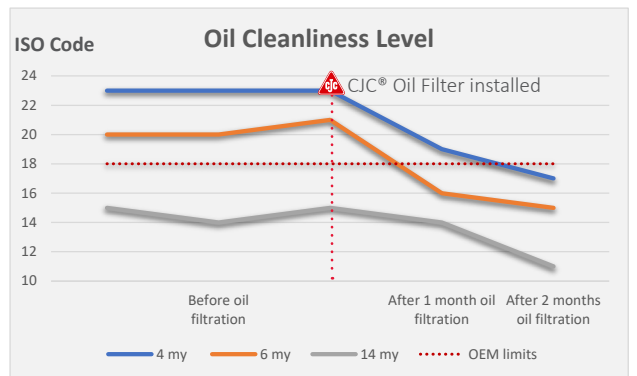


Komatsu Haul Truck 830E

The CJC® Oil Filter connected directly to the hydraulic system



RESULTS



ENVIRONMENTAL BENEFITS

There are several environmental benefits of a reduced oil consumption, including the environmental impact if oil is not disposed properly and the GHG emissions related to the production of oil.

Status	Sample Date	Fe (ppm)	PQI	ISO 4406	4 µm (part/ml)	6 µm (part/ml)	14 µm (part/ml)
Abnormal	14/08/2021	6	12	23/20/15	40015	5869	184
Abnormal	21/09/2021	6	11	23/20/14	42026	7497	137
Abnormal	16/10/2021	4	7	23/21/15	53617	16748	256
CJC® Onboard Oil Filter installed beginning of Dec. 2021							
Normal	09/12/2021	2	0	19/16/14	2781	444	83
Normal	31/01/2022	2	1	17/15/11	1108	245	20

