

Haul Truck, Caterpillar 794AC, Hydraulic Oil CJC® Oil Filtration

CUSTOMER SAVINGS & BENEFITS

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

- Extended usable oil lifetime from **1,500 hours to 4,000 hours**.
- Maintaining an **OEM recommended** oil cleanliness level of 18/16/13, even though the oil had reached 4,000 operating hours.
- **No exchange of system related components** during the 4,000-hour measured period.
- Savings in oil consumption: **\$ 637,500**

CUSTOMER

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

SYSTEM

HME type: Haul Truck **Oil type:** SAE 10W
Application: Caterpillar 794AC **Oil volume:** 1,458 L
System: Hydraulic system

PROBLEMS

The customer was facing contamination levels exceeding OEM recommendations, even on new oil stored in the on-site storage tanks. The average contamination level of new oil in 2021 was **ISO 22/20/16**.

SOLUTION

The 6xCAT 794C haul trucks were fitted **CJC® HD HDU 27/27** with **CJC® Filter Inserts B 27/27**. Each CJC® 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

After installing the CJC® Oil Filters on the 6xCAT 794AC haul trucks, it was possible to maintain an average cleanliness level of **18/16/13** during a **4,000 hours period**:

Direct cost savings, avoiding to purchase new oil:
 Extended oil lifetime from 1,500 hours to 4,000 hours saved:
4,250 L hydraulic oil / year per truck.

Considering an operational life of 70,000 hours, the 6xCAT 794AC would save a total of:
255,000 L hydraulic oil during the operation life.

\$ 637,500 in hydraulic oil alone (@ \$2,5 / liter)

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

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.



Caterpillar Haul Truck 794AC



One of the CJC® Oil Filters installed at the 6 haul trucks.

Used CJC® B 27/27 Filter Insert - saturated with dirt.

RESULT

Oil Changes Truck	Before	With CJC®	
	1	2	3
CM5701	1495	4676	4615
CM5702	1622	4999	4572
CM5703	1514	4001	4181
CM5704	1670	4781	4127
CM5705	1536	2453	4719
CM5706	1550	4212	4128
Oil lifetime extension, average	1535	4187	4390
Projected annual average oil consumption	6649	2438	2325

Tabel: Oil lifetime extension

