



CLEAN OIL  
BRIGHT IDEAS

# Lubrication Oil Storage Tanks

## CJC™ Application Study

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written by:

Marcelo González L.  
C.C.JENSEN Chile, S.L.

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### CUSTOMER

**Minera El Tesoro.**  
Copper Mine. Sierra Gorda.  
ESSO Chile Petrolera.  
Antofagasta - Chile.

### THE SYSTEM

Four tanks for storage of new oil.  
**Types of oil:** SAE 10-30-60 and 15W40.  
**Tank capacity:** 10,000 L each.  
Tanks are topped-up with 5,000 litres of new oil every 15 days.

### THE PROBLEM

When the oil arrives in trucks it is highly contaminated from the transportation process. Caterpillar and other manufactures of earth moving equipment recommend a cleanliness code of ISO 16/13, with the purpose of maintaining the reliability and economical operation of their equipment, i.e. drilling machines, dumpers etc.

### THE SOLUTION

The installation of a **CJC™ Fine Filter** on each tank.

#### Filters installed:

SAE 10: **HDU 27/81 MZ-EPT**  
SAE 30: **HDU 27/108 MZ-EH1PT**  
SAE 60: **HDU 2x27/108 GP- EH1P**  
15W40: **HDU 27/108 MZ-EPT**

All filters include a pump of 900 L/h, base/tank, pressure switch and control box. The filters operating on the higher viscosity oils are using a preheater to reduce the viscosity.

#### CJC™ Filter Insert B 27/27:

Filtration of 3 µm absolute - 0.8 µm nominal.  
**Dirt holding capacity:** 4 kg.  
**Water absorption capacity:** 2 L.  
Absorption of resin / oxidation deposit.



CJC Filters installed in Minera El Tesoro.

### THE RESULT

Type of oil	ESSO Lab.	Filtrex Lab.
	ISO 4406 C	ISO 4406
	Laser	Microscope
Essotrans 10W	18/15/11	16/14/10
Essotrans 30W	18/16/14	17/15/13
Essotrans 60W	20/18/13	17/16/13
Essolube XT3 W0	21/18/13	18/16/12

Contamination in delivered new oil.

### COMMENTS

#### ESSO Chile:

*The benefits of a filter system maintaining the clean oil as described, and in combination with a suitable mechanical pumping system, can be seen in the extended lifetime of mechanical components of the earth moving equipment. This is partially due to the substantial reduction of particles greater than 6 micron.*