



**CLEAN OIL  
BRIGHT IDEAS**

Application Study  
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# Quench Oil Quench Oil System

## CJC™ Application Study

### CUSTOMER

NSK Corporation, Michigan, USA.

### THE SYSTEM

Quench Oil System.

**Volume:** 4,000 gallons (15,140 litres.)

### THE PROBLEM

Filter bags had a very short life. The Plate & Frame heat exchangers were coated with black, tar-like residue reducing efficiency and requiring cleaning every 2-3 days.

### THE SOLUTION

A **CJC™ Fine Filter HDU 27/27** with a **CJC™ Filter Insert A 27/27** and 0.25-gpm (0.9 L/min.) Pump was selected for this test.

### THE TEST

100 gallons of oil were withdrawn from the production tank and filtered for 72 hours. A second pump circulated the oil in the tank to minimize settling affecting the results. After the 72 hour test the filter was moved to the production quench oil system and operated until pressure was 30 psi (2.1 Bar).

The used filter insert had collected 24 pounds (11 kg) of solids and sludge.

### THE RESULT

The oil was tested by the oil supplier and by an independent laboratory.

Solids were reduced from 320 mg/L to 26 mg/L.

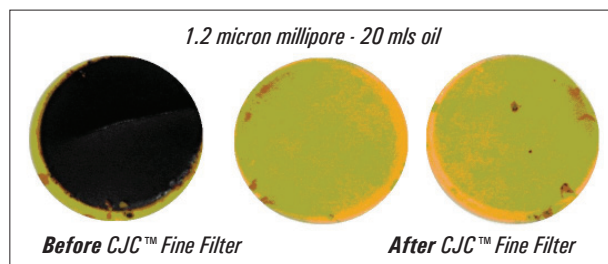
TAN was slightly reduced.

ISO codes dropped dramatically.

As a result of the test, NSK purchased and installed a HDU 427/81 on the system.



*CJC™ Filter Insert A 27/27 - After test*



### THE RESULT

Analysed Component	Beginning Test	Mid Test	End of Test
Gravimetric Analysis, mg/L	320	22	26
Lab Observations	Brown waxy grit; large grit; metal; brown spheres; varnish	Grit; carbon; fibres	Grit 5-10 microns; fibres; metal
Water, ppm	76	82	74
Viscosity, cSt 100°C	26.5	27.8	27.2
TAN	1.14	1.15	1.03
Particle Count: ISO#	27/21	17/12	19/14