



**CLEAN OIL  
BRIGHT IDEAS**

# Hydraulic Oil Liebherr Pontoon Excavator P 995

## CJC™ Application Study

Application Study  
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**LIEBHERR**

### CUSTOMER

Josef Möbius Bau-Aktiengesellschaft located in Hamburg, Germany, in technical cooperation with Liebherr-Baumaschinen Vertriebs- und Service GmbH, Hamburg Office.

### THE SYSTEM

Liebherr Pontoon Excavator P 995 Litronic  
**Oil type:** Bio-Hydraulic Oil (HEES) ISO VG 46  
**Volume:** 6,400 Litre

### THE PROBLEM

Due to the operating conditions, the risk of dirt and water ingress is always high for the hydraulic system of the pontoon excavator. Despite an already installed filter for the removal of water and particles, the oil was heavily contaminated. The condition of the oil steadily deteriorated. After 7,500 operating hours the oil reached a contamination level (ISO Code) of 21/20/18 and a water content of 515 ppm (see table right). After the breakdown of the pump system, the operator decided to make a test run with a CJC™ Fine Filter.

### THE SOLUTION

A CJC™ Fine Filter HDU 27/108 with 4 x CJC™ Filter Inserts B 27/27 (3 micron absolute) and a pump with a flow of 1,260 ltr/h was installed for testing. Dirt holding capacity: 16 L - here approx. 8 kg  
Water absorption capacity: 8 L - here approx. 3.6 L

### THE TEST

After 7,500 operating hours, the old filter was dismantled and the test with the CJC™ Fine Filter was started. In the following months, oil samples were taken and analysed every 500 operating hours.

### THE RESULT

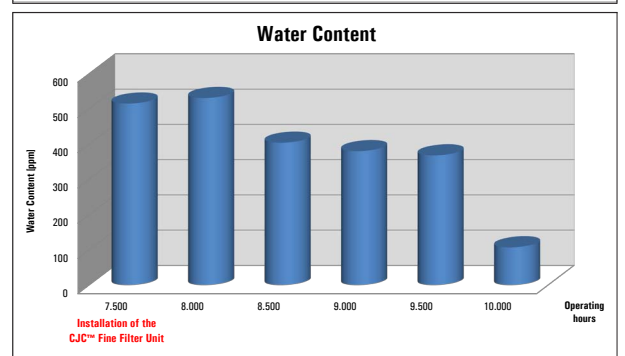
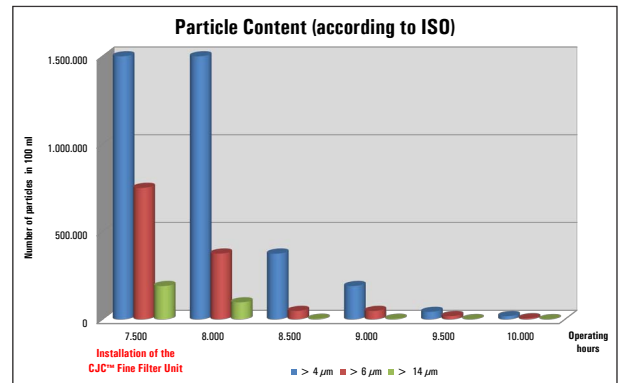
After 2 months (1,000 operating hours) of continuous offline filtration, the cleanliness level improved from ISO Code 21/20/18 to 19/16/12 and after further 2 - 3 months (1,500 operating hours) to 15/13/10. The water content fell from 515 down to 107 ppm. Because of the achieved result, the oil life time will be extended and the hydraulic system will be protected against wear. Cost savings and environmental benefits further add to the success. After the positive test, the CJC™ Fine Filter was bought and permanently installed at the excavator.

### COMMENTS

*Josef Möbius Bau-Aktiengesellschaft :*  
"We are very satisfied with the test results and intend to install further CJC™ Fine Filters."



Liebherr Pontoon Excavator P 995 Litronic on spud carriage pontoon MP40 - in use for construction of the deep-water container terminal JadeWeserPort in Wilhelmshaven



### THE RESULT

Operating Hours	ISO Code *)	Water [ppm]
7.000	21/19/15	311
7.500 (Installation of the CJC™ Fine Filter)	21/20/18	515
8.000	21/19/17	531
8.500	19/16/12	404
9.000	18/16/12	380
9.500	16/15/11	368
10.000	15/13/10	107

\*) Further information on cleanliness classes are available on request.