

LAB REPORT

Unit ID **Paper machine**
 Component **Dryer section**
 Current sample number **1700859**

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OELCHECK GmbH · Kerschelweg 28 · 83098 Brannenburg

Machine type: **Dryer section**
 Manufacturer: **Valmet-Metso**
 Oil brand name: **Mobil DTE BB 220 PM**
 Oil quantity in system: **16000 l**

Example report
 Analysis scope: Analysis-Kit 5

Diagnosis for the current laboratory values

The wear values have clearly decreased. Viscosity and additive levels are in the normal range. The water content is within the normal range. Die Reinheitsklasse des Öles ist schlechter als von den Komponentenherstellern empfohlen. The oil cleanliness should be improved by changing the filter element or by additional bypass filtration. Please observe further changes with the next sample. Please send us another sample on the occasion of your next inspection, but no later than six months from now.

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Dipl.-Ing. Stefan Mitterer

Sample Rating



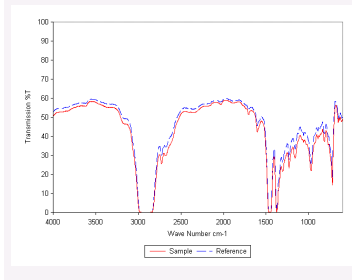
Caution

ANALYSIS RESULTS			Current sample	Previous samples	
LAB NUMBER			1700859	1700860	
SAMPLE RATING					
Date tested			05.02.2019	10.10.2017	
Date of sample taken			27.01.2019	04.10.2017	
Date of last oil change			01.10.2007	01.10.2007	
Top-up since change	l		5000	2000	
Operating time since change	h		118311	109200	
Total operating time	h		118311	109200	
Oil changed			no	no	
WEAR					
Iron	Fe	mg/kg	12	49	
Chrome	Cr	mg/kg	0	0	
Tin	Sn	mg/kg	0	1	
Aluminum	Al	mg/kg	0	2	
Nickel	Ni	mg/kg	0	0	
Copper	Cu	mg/kg	14	54	
Lead	Pb	mg/kg	1	0	
Molybdenum	Mo	mg/kg	1	0	
PQ index	-		< 25	29	
CONTAMINATION					
Silicon	Si	mg/kg	0	3	
Potassium	K	mg/kg	0	0	
Sodium	Na	mg/kg	2	8	
Water K. F.	ppm		140	535	
OIL CONDITION					
Viscosity at 40°C	mm²/s		205.83	207.25	
Viscosity at 100°C	mm²/s		17.37	18.27	
Viscosity index	-		90	97	
Oxidation	A/cm		3	3	
IR index	-		99.32	98.39	
ADDITIVES					
Calcium	Ca	mg/kg	69	13	
Magnesium	Mg	mg/kg	0	0	
Boron	B	mg/kg	0	0	
Zinc	Zn	mg/kg	1097	742	
Phosphorus	P	mg/kg	819	683	
Barium	Ba	mg/kg	1	2	
Sulphur	S	mg/kg	9334	7877	

Bottle and Cap



Infrared Spectrum



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Top-up since change	l	5000	2000		
Operating time since change	h	118311	109200		
Total operating time	h	118311	109200		
Oil changed		no	no		
ADDITIONAL TESTS					
AN / NN	mgKOH/g	1.42	3.15		
Cleanliness class	ISO 4406	19/18/14	20/15/13		
A: >4µm = ISO >4µm	Particles/100ml	403522	630046		
B: >6µm = ISO >6µm	Particles/100ml	156765	29137		
C: >14µm = ISO >14µm	Particles/100ml	9778	5309		
D: >21µm	Particles/100ml	3111	1616		
E: >38µm	Particles/100ml	0	0		
F: >70µm	Particles/100ml	0	0		
Cleanliness class	SAE AS 4059	10A	10A		

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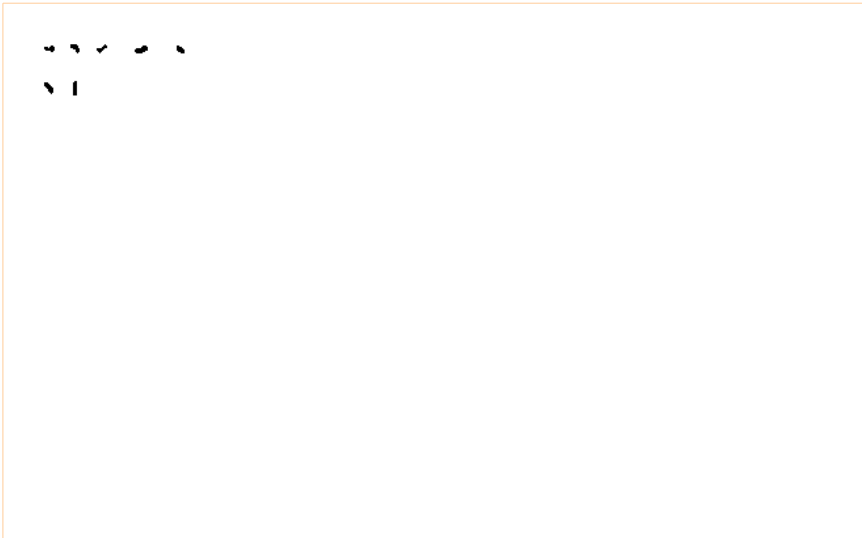
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Diagnosis for the optical particle analysis (OPA)

The values for the nonmetallic contaminants and for wear particles are within the normal range.

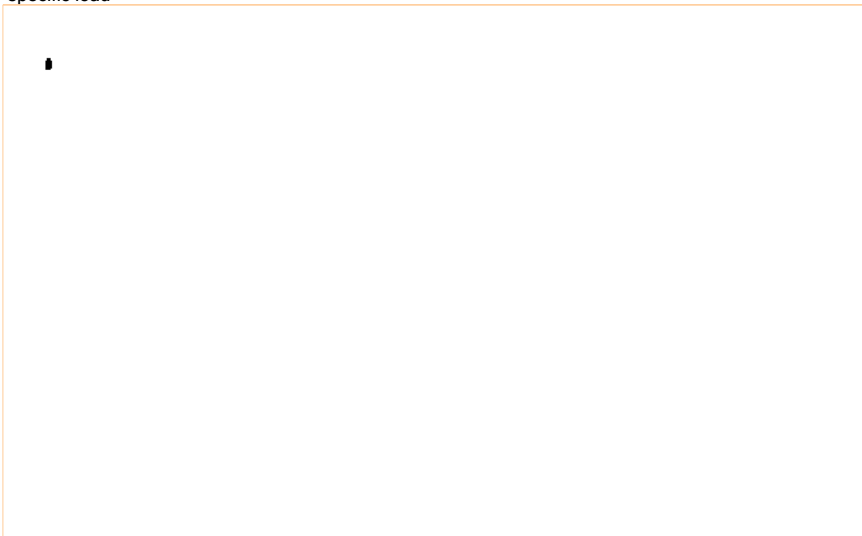
Dipl.-Ing. Hendrik Karl



Sliding wear

Caused by contact between metal surfaces under high specific load

1 scale line corresponds to 100 µm



Fatigue wear

Caused by overload, vibration, long term use of components

1 scale line corresponds to 100 µm

ANALYSIS RESULTS

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Top-up since change	l	5000
Operating time since change	h	118311
Total operating time	h	118311
Oil changed		no

Particles in the current sample

Number of particles >= 20 µm acc. to OPA	
Relates to 1ml oil	
Cutting wear	< 20
Sliding wear	39
Fatigue wear	< 20
Non metallic particles	33
Unclassified	< 20

Number of particles acc. to ISO 4406 (1999)	
Relates to 100ml oil	
Cleanliness class ISO 4406	19/18/14
>4µm	403522
>6µm	156765
>14µm	9778
>21µm	3111
Cleanliness class SAE AS 4059	10A

The graphs show the countours of the particles > 20 µm

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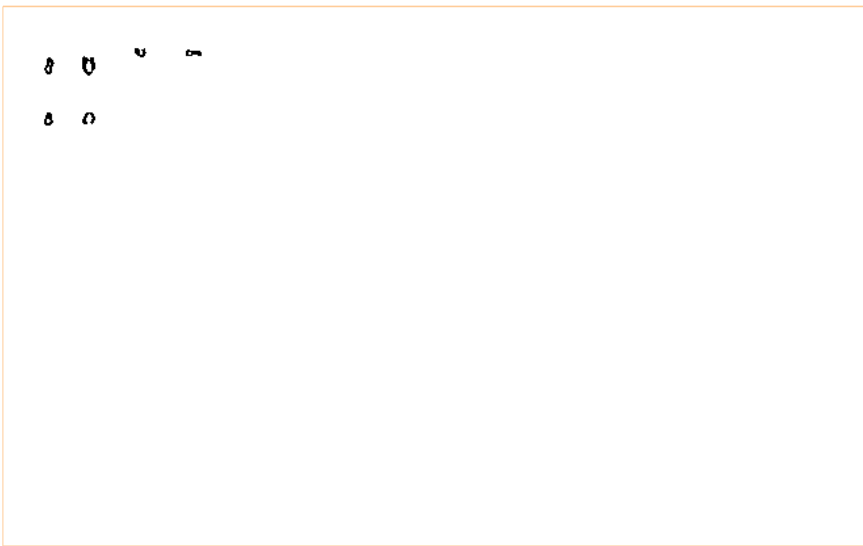
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Non metallic particles

Typical for additives, tribopolymers, soot, solid contaminants (dust)

1 scale line corresponds to 100 µm