

## Diagnosis for the current laboratory values

A slightly increased amount of magnetic ferrous particles ( $>5 \mu$ ) is detected from the increased PQ index. The iron level is increased. The value is slightly higher than expected. Please observe further changes with the next sample. Sodium and potassium are higher than expected. Possible cause: Residues of salts (NaCl), saline or inhibited water. For safety reasons, please check the cooling system for leaks or a low coolant level. The fuel content is negligible. Viscosity has dropped in comparison to the fresh oil viscosity. The viscosity is out of the range of the SAE viscosity class which is valid for the given oil type. As you informed us, the oil has been changed already.

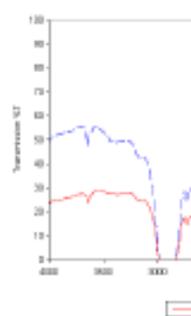
**Christoph Rößner (MLA I + II + CLS)**

ANALYSIS RESULTS			Current sample	Previous samples	
LAB NUMBER			4321352		
SAMPLE RATING					
Date tested			20.05.2020		
Date of sample taken			08.05.2020		
Date of last oil change			15.12.2019		
Top-up since change			8		
Operating time since change			7500		
Total operating time			250000		
Oil changed			yes		
<b>WEAR</b>					
Iron	Fe	mg/kg	111		
Chrome	Cr	mg/kg	2		
Tin	Sn	mg/kg	0		
Aluminum	Al	mg/kg	6		
Nickel	Ni	mg/kg	0		
Copper	Cu	mg/kg	4		
Lead	Pb	mg/kg	1		
Manganese	Mn	mg/kg	2		
PQ index			38		
<b>CONTAMINATION</b>					
Silicon	Si	mg/kg	6		
Potassium	K	mg/kg	32		
Sodium	Na	mg/kg	36		
Titanium	Ti	mg/kg	4		
Water	%		< 0.10		
IR Glycol	-		negative		
Diesel fuel	%		1.1		
Biodiesel	%		< 0.3		
Soot content	%		0.3		
<b>OIL CONDITION</b>					
Viscosity at 40°C	mm <sup>2</sup> /s		67.07		
Viscosity at 100°C	mm <sup>2</sup> /s		11.64		
Viscosity index	-		170		
Oxidation	A/cm		1		
Nitration	A/cm		1		
Sulfation	A/cm		2		
Dispersancy	%		97		
<b>ADDITIVES</b>					
Calcium	Ca	mg/kg	1734		
Magnesium	Mg	mg/kg	10		
Boron	B	mg/kg	2		
Zinc	Zn	mg/kg	808		
Phosphorus	P	mg/kg	712		
Barium	Ba	mg/kg	0		
Molybdenum	Mo	mg/kg	21		
Sulphur	S	mg/kg	1662		

Bottle



Infrared



CCD

