

Unit ID **Ship drive**
Component **Four-stroke marine diesel engine**
Current sample number **1700949**

OELCHECK GmbH · Postfach 1116 · 83094 Brannenburg

Example report
Analysis scope: Analysis-Kit 2

Machine type: **Motor vessel**
Manufacturer: **MWM 348**
Oil brand name: **Shell Gadinia 40**
Oil quantity in system: **250 l**

Diagnosis for the current laboratory values

Iron strongly increased by abrasive or corrosive wear. The PQ index indicates an increased amount of magnetic ferrous particles. Sodium slightly increased. Possible reason: Residue from salts (NaCl), saline or inhibited water. The water value is too high and is far above the permissible level. Too much water may cause corrosion and/or cavitation. The soot content has increased slightly. The base number BN (indicator for alkaline reserve) is lower than in the fresh oil. Therefore, the oil can neutralize fewer acids created in the combustion process. I recommend that you change the oil as soon as possible if you have not already done so.

Dipl.-Ing. Stefan Mitterer

Sample Rating



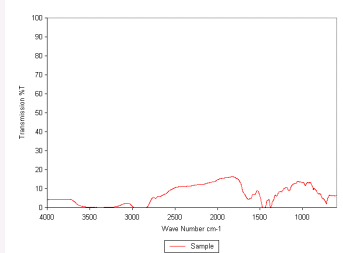
action

ANALYSIS RESULTS			Current sample	Previous samples	
LAB NUMBER			1700949		
SAMPLE RATING					
Date tested			15.09.2010		
Date sample taken			14.09.2010		
Date of last oil change			16.04.2010		
Top-up since change			-		
Operating hrs since change			2310		
Total operating hrs			9874		
Oil changed			no		
WEAR					
Iron	Fe	mg/kg	218		
Chrome	Cr	mg/kg	2		
Tin	Sn	mg/kg	2		
Aluminum	Al	mg/kg	8		
Nickel	Ni	mg/kg	1		
Copper	Cu	mg/kg	9		
Lead	Pb	mg/kg	4		
PQ index	-		97		
CONTAMINATION					
Silicon	Si	mg/kg	18		
Potassium	K	mg/kg	11		
Sodium	Na	mg/kg	84		
Water	%		1.53		
IR Glycol	-		negative		
Diesel fuel	%		< 0.30		
Biodiesel	%		< 0.30		
Soot content	%		1.1		
OIL CONDITION					
Viscosity at 40°C	mm ² /s		129.10		
Viscosity at 100°C	mm ² /s		14.18		
Viscosity index	-		108		
Oxidation	A/cm		15		
Nitration	A/cm		9		
Sulfation	A/cm		10		
Dispersancy	%		96		
ADDITIVES					
Calcium	Ca	mg/kg	3875		
Magnesium	Mg	mg/kg	79		
Boron	B	mg/kg	6		
Zinc	Zn	mg/kg	411		
Phosphorus	P	mg/kg	354		
Barium	Ba	mg/kg	0		
Molybdenum	Mo	mg/kg	0		
Sulphur	S	mg/kg	7681		
ADDITIONAL TESTS					
BN	mgKOH/g		9.11		

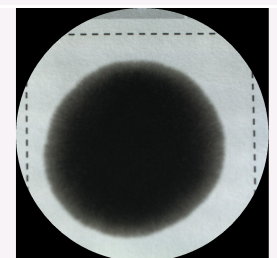
Bottle and Cap



Infrared Spectrum



CCD oil spot



LAB REPORT



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