

Unit ID **Ship propulsion engine**  
 Component **Two-stroke marine diesel engine, system oil**  
 Current sample number **1700926**

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Example report  
 Analysis scope: Analysis-Kit 2

Machine type: **6270 MC**  
 Manufacturer: **MAN B&W**  
 Sample from: **Main engine, system oil**  
 Oil brand name: **BP Energol OE-HT 30**  
 Oil quantity in system: **28000 l**

### Diagnosis for the current laboratory values

There is no significant change of wear metals since the previous sample. The additive level is higher than expected. Possible reason: Mixture with another oil type or there is a different oil type in use than reported. The Base Number has risen. Please check whether cylinder lubrication oil has entered the circuit. The water content has increased slightly. Please observe further changes with the next sample. I recommend that you send us the next sample for trend analysis just after the halfway point for the usual inspection interval.

Dipl.-Ing. Rüdiger Krethe

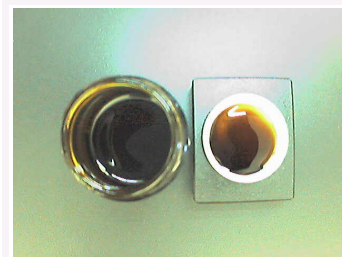
### Sample Rating



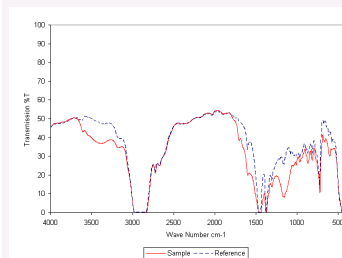
### Caution

ANALYSIS RESULTS			Current sample	Previous samples		
LAB NUMBER			1700926	1700927	1700928	1700929
SAMPLE RATING			?	✓	✓	✓
Date tested			12.07.2010	24.01.2010	12.07.2009	18.02.2009
Date sample taken			04.07.2010	17.01.2010	07.07.2009	10.02.2009
Date of last oil change			-	-	-	-
Top-up since change	l		Automatic	Automatic	Automatic	Automatic
Operating hrs since change			55710	51369	47635	44874
Total operating hrs			55710	51369	47635	44874
Oil changed			no	no	no	no
WEAR						
Iron	Fe	mg/kg	15	16	19	7
Chrome	Cr	mg/kg	0	0	0	0
Tin	Sn	mg/kg	1	2	0	0
Aluminum	Al	mg/kg	2	1	2	1
Nickel	Ni	mg/kg	8	7	5	3
Copper	Cu	mg/kg	14	14	13	8
Lead	Pb	mg/kg	1	3	2	2
PQ index	-		OK	OK	OK	OK
CONTAMINATION						
Silicon	Si	mg/kg	6	5	8	9
Potassium	K	mg/kg	0	0	1	2
Sodium	Na	mg/kg	7	17	5	6
Vanadium	V	mg/kg	24	21	16	8
Water	%		0.34	0.27	0.30	0.34
Glycol	-		negative	negative	negative	negative
Soot content	%		< 0.1	< 0.1	< 0.1	-
OIL CONDITION						
Viscosity at 40°C	mm <sup>2</sup> /s		135.84	132.62	127.51	121.50
Viscosity at 100°C	mm <sup>2</sup> /s		12.94	12.85	12.82	12.51
Viscosity index	-		86	88	92	94
Oxidation	A/cm		7	6	4	4
Nitration	A/cm		11	9	8	9
Sulfation	A/cm		5	4	6	6
Dispersancy	%		86	91	79	97
ADDITIVES						
Calcium	Ca	mg/kg	7900	5965	6302	6752
Magnesium	Mg	mg/kg	21	18	15	21
Boron	B	mg/kg	1	1	0	0
Zinc	Zn	mg/kg	193	191	230	223
Phosphorus	P	mg/kg	198	191	207	223
Barium	Ba	mg/kg	0	0	0	-
Molybdenum	Mo	mg/kg	1	1	0	-
Sulphur	S	mg/kg	9653	7574	11480	8875
ADDITIONAL TESTS						
BN	mgKOH/g		16.57	11.39	12.68	15.91

Bottle and Cap



Infrared Spectrum



CCD oil spot

