

Unit ID **Steam turbine**  
 Component **Lubricating oil 10T**  
 Current sample number **1702851**

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OELCHECK GmbH · Kerschelweg 28 · 83098 Brannenburg

Example report  
 Analysis scope: Turbine Oil Kit 10

Machine type: **EG49/8/8**  
 Manufacturer: **Siemens/Bergmann Borsig**  
 Sample from: **Lubricating oil**  
 Oil brand name: **Aral Kosmol TF 46**  
 Oil quantity in system: **3000 l**

### Diagnosis for the current laboratory values


No wear metals present in the sample. The oil cleanliness is within the expected limits. The foaming tendency has increased slightly. The air release property has increased slightly. Please observe further changes with the next sample. I recommend that you send the next sample at the next service interval or at your regular inspection for trend analysis.

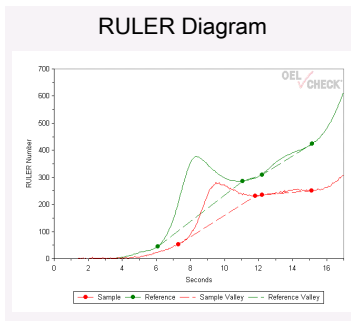
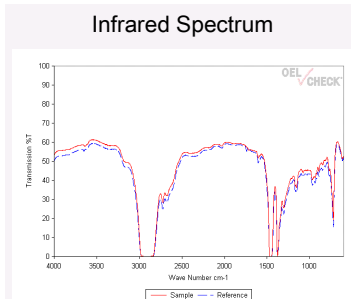
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### Sample Rating



### Caution

ANALYSIS RESULTS			Current sample	Previous samples	
LAB NUMBER			1702851		
SAMPLE RATING					
Date tested			11.05.2023		
Date of sample taken			02.05.2023		
Date of last oil change			01.09.2015		
Top-up since change			-		
Operating time since change		h	59805		
Total operating time		h	351596		
Oil changed			no		
WEAR					
Iron	Fe	mg/kg	0		
Chrome	Cr	mg/kg	0		
Tin	Sn	mg/kg	0		
Aluminum	Al	mg/kg	0		
Nickel	Ni	mg/kg	0		
Copper	Cu	mg/kg	0		
Lead	Pb	mg/kg	0		
Molybdenum	Mo	mg/kg	0		
PQ index		-	< 25		
CONTAMINATION					
Silicon	Si	mg/kg	0		
Potassium	K	mg/kg	1		
Sodium	Na	mg/kg	0		
Lithium	Li	mg/kg	0		
Water K. F.		ppm	97		
OIL CONDITION					
Viscosity at 40°C		mm²/s	44.96		
Viscosity at 100°C		mm²/s	6.80		
Viscosity index		-	106		
Oxidation		A/cm	1		
IR index		-	99.76		
Color		Color index	1.5		
ADDITIVES					
Calcium	Ca	mg/kg	0		
Magnesium	Mg	mg/kg	0		
Boron	B	mg/kg	0		
Zinc	Zn	mg/kg	0		
Phosphorus	P	mg/kg	12		
Barium	Ba	mg/kg	0		
Sulphur	S	mg/kg	236		



# LAB REPORT

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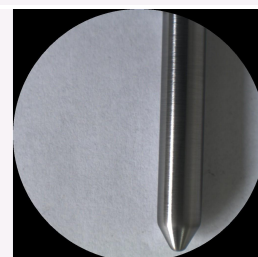
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 Analysis scope: Turbine Oil Kit 10

Machine type: **EG49/8/8**  
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 Sample from: **Lubricating oil**  
 Oil brand name: **Aral Kosmol TF 46**  
 Oil quantity in system: **3000 l**

ANALYSIS RESULTS		Current sample	Previous samples	
<b>LAB NUMBER</b>		<b>1702851</b>		
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Top-up since change		<b>-</b>		
Operating time since change	h	<b>59805</b>		
Total operating time	h	<b>351596</b>		
Oil changed		<b>no</b>		
<b>ADDITIONAL TESTS</b>				
AN / NN	mgKOH/g	<b>0.13</b>		
MPC		<b>8.30</b>		
Air-release properties	min	<b>6.3</b>		
Water separation (steam)	s	<b>111</b>		
Foam test seq. I	ml/ml	<b>500/0</b>		
Cleanliness class	ISO 4406	<b>17/15/11</b>		
A: >4µm = ISO >4µm	Particles/100ml	<b>121520</b>		
B: >6µm = ISO >6µm	Particles/100ml	<b>23180</b>		
C: >14µm = ISO >14µm	Particles/100ml	<b>1910</b>		
D: >21µm	Particles/100ml	<b>790</b>		
E: >38µm	Particles/100ml	<b>130</b>		
F: >70µm	Particles/100ml	<b>40</b>		
Cleanliness class	SAE AS 4059	<b>8A</b>		
Steel corrosion	DIN ISO 7120/A	<b>pass</b>		
Antioxidant 1 - RULER	%	<b>87.3</b>		
Antioxidant 2 - RULER	%	<b>49.9</b>		

## Steel corrosion



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### Evaluation of the oxidation inhibitors

Compared to the reference sample, only a slight degradation of antioxidants is visible. There is still enough aging protection in the oil.

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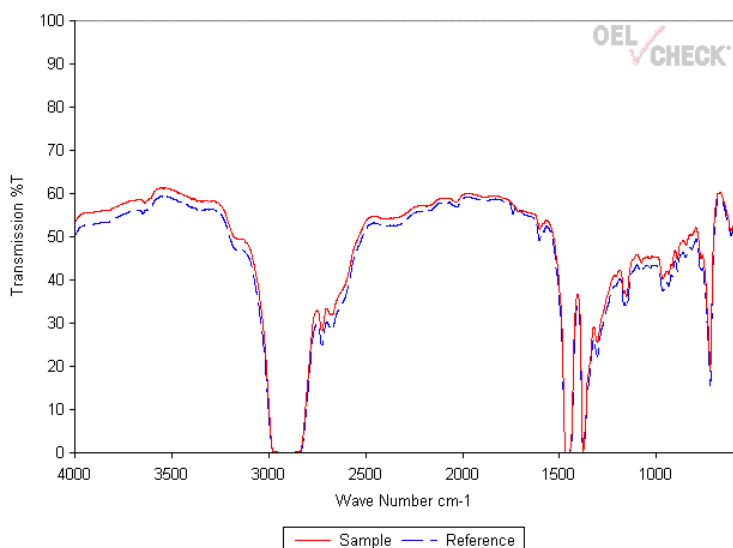
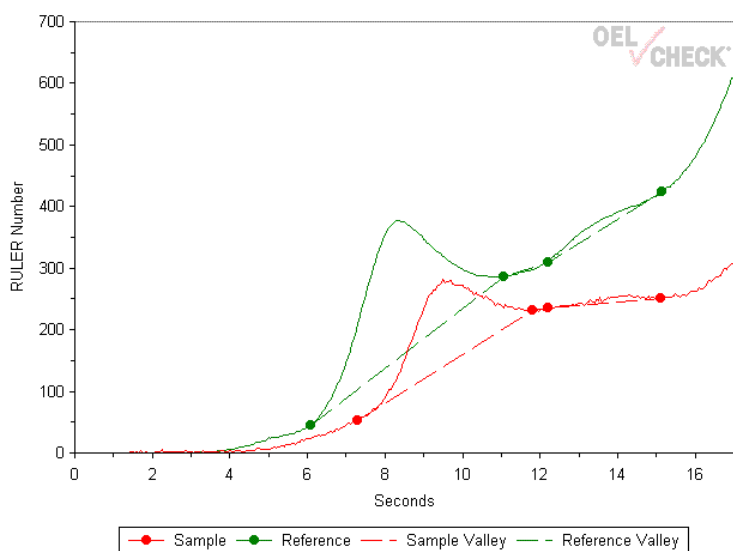
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### Antioxidant/RULER

Antioxidant 1 - RULER	%	87,3
Antioxidant 2 - RULER	%	49,9

### Antioxidant/FT-IR



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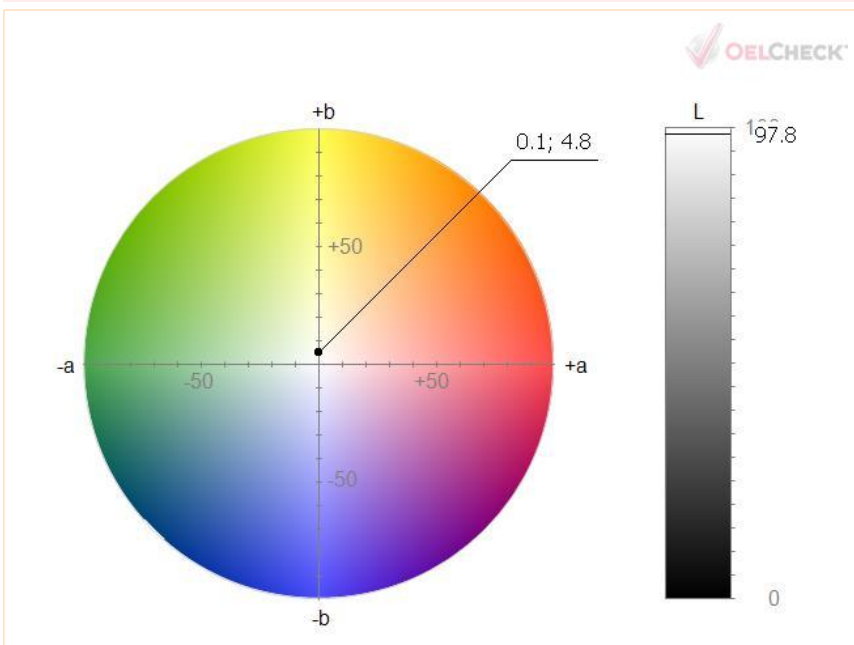
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### Diagnosis of the MPC test

The MPC value is within a normal range. There is no risk for the formation of varnish.

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### MPC test

MPC	8,30
Luminance L	97,80
Redness index a	0,10
Yellowness index b	5,80

MPC test membrane

