

# LAB REPORT

Unit id  
**TRANSFORMER**  
Component  
**insulating oil**



Lab number: 1704436

Machine type  
**DOTR 63000/110**

Manufacturer  
**SGB**

Oil quantity in system  
**15800 l**

Beispielbericht  
Analyseumfang: Analysenset ISO 4

Only minor deviations can be detected compared to the previous sample. No wear metals can be detected in the sample. The breakdown voltage is within the normal range. The dielectric loss factor and the interfacial tension do not show an increased proportion of polar components, which could indicate oil aging or contamination. You should observe any further changes in the next analysis. I advise you: Send us the next sample during your next maintenance or during the usual inspection for observation of the trend behavior.



**NORMAL**

Dipl. WI-Ing. (FH) Rainer Schöpf (CLS)

ANALYSIS RESULTS		Current sample	Previous samples →
Lab number		1704436	1704437
SAMPLE RATING		✓	✓
Date of examination		01.09.2025	26.08.2024
Date of sample taken		17.08.2025	11.08.2024
Date of last oil change		-	-
Refill volume		-	-
Oil operating time		-	-
Total operating time of unit		44 M	32 M
Oil changed		-	-
<b>WEAR</b>			
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
Antimony	Sb	mg/kg	1
Manganese	Mn	mg/kg	0
<b>CONTAMINATION</b>			
Silicon	Si	mg/kg	0
Potassium	K	mg/kg	0
Sodium	Na	mg/kg	1
Water K. F.		ppm	9
<b>OIL CONDITION</b>			
Viscosity at 40 °C		mm <sup>2</sup> /s	8.52
Oxidation		A/cm	1
Color		Farbzahl	0.5

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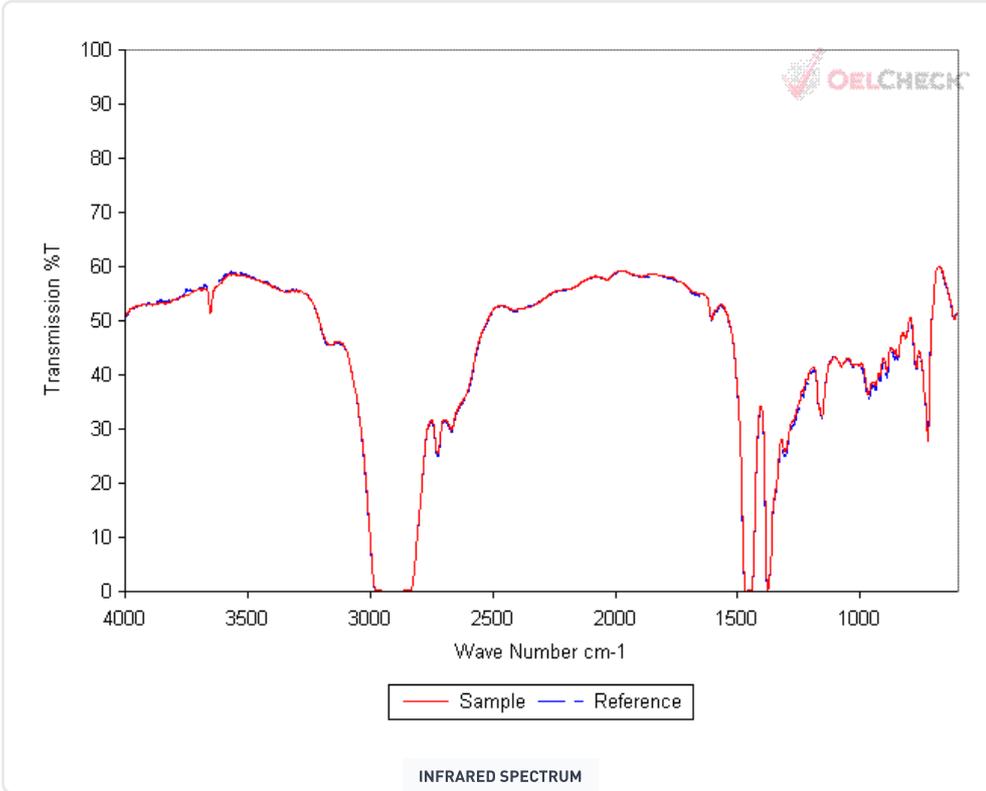
ANALYSIS RESULTS (...)			Current sample	Previous samples →				
Lab number			<b>1704436</b>	1704437				
SAMPLE RATING								
Date of examination			<b>01.09.2025</b>	26.08.2024				
Date of sample taken			<b>17.08.2025</b>	11.08.2024				
<b>ADDITIVES</b>								
Calcium	Ca	mg/kg	<b>0</b>	0				
Magnesium	Mg	mg/kg	<b>0</b>	0				
Boron	B	mg/kg	<b>0</b>	0				
Zinc	Zn	mg/kg	<b>0</b>	0				
Phosphorus	P	mg/kg	<b>0</b>	0				
Barium	Ba	mg/kg	<b>0</b>	0				
Sulphur	S	mg/kg	<b>89</b>	34				
<b>ADDITIONAL TESTS</b>								
AN / NN		mgKOH/g	<b>&lt; 0.10</b>	< 0.10				
Density 15 °C		kg/m <sup>3</sup>	<b>867</b>	867				
Breakdown voltage		kV	<b>72.80</b>	72.30				
Test frequency		Hz	<b>60</b>	60				
Dielectric dissipation factor	t...	-	<b>0.0023</b>	0.0010				
Resistivity	ρ+	GΩm	<b>330.85</b>	1840.00				
Relative permittivity	ε	-	<b>2.09</b>	2.10				
Interface tension		mN/m	<b>42.96</b>	43.86				



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SAMPLE IMAGES (LABORATORY NUMBER: 1704436)



**Any questions?**

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## LAB.REPORT



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sample/1704436](http://www.lab.report/sample/1704436)

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## Dissolved gas analysis (DGA)

The gas-in-oil analysis does not show any significant gas concentrations. Therefore, a fault event is not apparent.

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ANALYSIS RESULTS		Current sample
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DISSOLVED GAS ANALYSIS			
Nitrogen	N2	ppm	49090
Oxygen	O2	ppm	21840
Hydrogen	H2	ppm	0
Carbon monoxide	CO	ppm	294
Carbon dioxide	CO2	ppm	2330
Methane	CH4	ppm	0
Ethane	C2H6	ppm	0
Ethylene	C2H4	ppm	0
Acetylene	C2H2	ppm	0
Total gas		ppm	73554

DGA INTERPRETATION		
C2H2/C2H4		n/a
CH4/H2		n/a
C2H4/C2H6		n/a

DUVAL GAS CONCENTRATION			
Amount for Duval triangle	CH4	%	-
Amount for Duval triangle	C2H4	%	-
Amount for Duval triangle	C2H2	%	-
Duval error type			-