

LAB REPORT

Unit id
BIOGAS ENGINE
Component
Gas engine



Lab number: 1704289

Machine type SEV-MA 365 BG	Manufacturer MAN SEVA	Sample from Biogas engine
Oil brand name Addinol GMO MG 40 Extra PLUS	Oil quantity in system 200 l	Serial number 12345-98765

Beispielbericht
Analyseumfang: Gasmotoren-Set

The wear values are within the normal range. The nitration value (NOx) is elevated. Possible cause: Increased proportion of combustion gases, usually caused by poor combustion, insufficient sealing between the piston and cylinder wall, or valve problems. Fuel influences or a non-optimal engine setting may also play a role. The base number BN (indicator for the alkaline reserve) has slightly decreased compared to the fresh oil. AN (neutralization number) is higher than expected, but not yet critical. Possible cause: Oxidation or oil aging. All other measured data are within the permissible or expected values. I advise you: After another 200 operating hours, send another oil sample to the laboratory for further trend monitoring or change the oil after this time.

Dipl.-Ing. Andy Böhme (CLS)



CAUTION

ANALYSIS RESULTS		Current sample	Previous samples →			
Lab number		1704289	1704290	1704291	1704292	
SAMPLE RATING						
Date of examination		21.07.2025	16.05.2025	10.03.2025	09.01.2025	
Date of sample taken		17.07.2025	09.05.2025	06.03.2025	03.01.2025	
Date of last oil change		19.05.2025	-	12.01.2025	-	
Top-up since change		-	-	-	0 l	
Operating time since change		1420 h	1300 h	1270 h	1300 h	
Total operating time		48848 h	47204 h	45673 h	44180 h	
Oil changed		no	no	no	no	
WEAR						
Iron	Fe	mg/kg	3	2	2	2
Chrome	Cr	mg/kg	0	0	0	0
Tin	Sn	mg/kg	0	0	0	0
Aluminum	Al	mg/kg	1	1	0	1
Nickel	Ni	mg/kg	0	0	0	0
Copper	Cu	mg/kg	0	1	1	1
Lead	Pb	mg/kg	3	1	1	0
Molybdenum	Mo	mg/kg	0	0	0	0
Manganese	Mn	mg/kg	0	0	0	0
PQ index	-	-	< 25	< 25	< 25	< 25
CONTAMINATION						
Silicon	Si	mg/kg	1	1	1	1
Potassium	K	mg/kg	2	2	2	2
Sodium	Na	mg/kg	1	1	1	2
Chlorine	Cl	mg/kg	31	37	59	52
Silver	Ag	mg/kg	-	-	-	1
Water		%	< 0.10	< 0.10	< 0.10	< 0.10
IR Glycol		-	negativ	negativ	negativ	negativ

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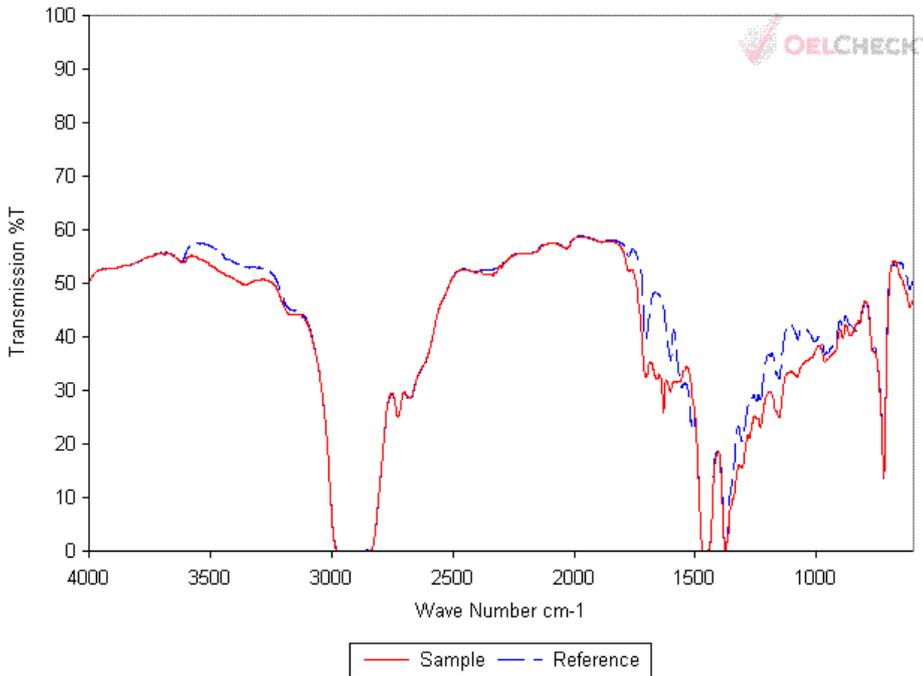
ANALYSIS RESULTS (...)		Current sample	Previous samples →			
Lab number		1704289	1704290	1704291	1704292	
SAMPLE RATING		i	i	i	i	
Date of examination		21.07.2025	16.05.2025	10.03.2025	09.01.2025	
Date of sample taken		17.07.2025	09.05.2025	06.03.2025	03.01.2025	
OIL CONDITION						
Viscosity at 40 °C	mm ² /s	129.04	128.28	126.31	126.02	
Viscosity at 100 °C	mm ² /s	14.80	14.78	14.85	14.79	
Viscosity index	-	116	117	120	119	
Oxidation	A/cm	8	7	7	8	
Nitration	A/cm	11	9	9	9	
Sulfation	A/cm	0	0	0	0	
IR index	-	96.07	96.80	97.06	96.25	
ADDITIVES						
Calcium	Ca	mg/kg	2736	2777	2598	2694
Magnesium	Mg	mg/kg	14	14	12	12
Boron	B	mg/kg	54	59	58	60
Zinc	Zn	mg/kg	371	366	353	364
Phosphorus	P	mg/kg	286	270	273	277
Barium	Ba	mg/kg	0	0	0	0
Sulphur	S	mg/kg	901	813	761	788
ADDITIONAL TESTS						
BN		mgKOH/g	8.01	8.07	7.96	7.99
AN / NN		mgKOH/g	4.30	4.10	4.05	3.90
I pH value		-	5.89	5.86	5.73	5.84



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SAMPLE IMAGES (LABORATORY NUMBER: 1704289)



INFRARED SPECTRUM



BOTTLE AND CAP



Any questions?

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