

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR R920 045422-1705 - Diesel Engine

Sample No: LHMC116231

Oil Type: LIEBHERR MOTOROIL 10W-40 LOW ASH



SAMPLE INFORMATION

Sample Number	LHMC116231	LH0229832	LH0217220	LHMC104447
Sample Date	11 Jul 2023	29 Nov 2022	15 Apr 2022	07 Feb 2022
Machine Hours	9805	8143	7593	7059
Oil Hours	1000	500	500	500
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

POTOMAC METALS

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OIL CONDITION

Visc @ 100°C	cSt	12.5	12.8	12.9	12.6
Base Number (BN)	mg KOH/g	7.7	7.4	7.8	8.2
Oxidation (PA)	%	52	70	65	71



CONTAMINATION

Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	69	85	83	88
Sulfation (PA)	%	51	60	59	61
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	6	6	5	4
Sodium	ppm	2	2	2	2
Potassium	ppm	2	<1	0	2

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



WEAR METALS

Iron	ppm	7	11	11	10
Copper	ppm	<1	2	2	3
Lead	ppm	0	0	0	<1
Tin	ppm	0	<1	<1	<1
Aluminum	ppm	2	2	2	3
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	0	<1	3	<1
Nickel	ppm	0	0	<1	0
Titanium	ppm	<1	<1	<1	<1
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1399	1357	1422	1616
Magnesium	ppm	741	700	668	631
Zinc	ppm	855	798	771	833
Phosphorus	ppm	744	759	704	759
Barium	ppm	0	0	0	0
Boron	ppm	85	74	86	67

Depot: POTSTE
Unique No: 10635601
Signed: Wes Davis
Report Date: 08 Sep 2023



GRAPHS

