

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR R914 018783-960 - Diesel Engine

Sample No: LHMC124807

Oil Type: MOBIL DELVAC 1300 SUPER15W40



SAMPLE INFORMATION

Sample Number	LHMC124807	LHMC99448	LHMC110524	LHMC81052
Sample Date	29 Jun 2023	28 Mar 2019	04 Mar 2019	11 Jul 2015
Machine Hours	10408	8191	8136	5294
Oil Hours	0	55	0	71
Oil Changed	Not Changd	Not Changd	Changed	Not Changd
Sample Status	NORMAL	SEVERE	SEVERE	NORMAL

ROCK HARD EXCAVATING

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OIL CONDITION

Visc @ 100°C	cSt	13.0	12.88	14.92	13.72
Base Number (BN)	mg KOH/g	8.9	---	---	---
Oxidation (PA)	%	64	76	80	56



CONTAMINATION

Water	%	---	---	0.104	---
Soot %	%	0.5	0.1	0.2	0
Nitration (PA)	%	50	62	103	50
Sulfation (PA)	%	63	59	63	44
Glycol	%	NEG	0.10	0.10	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	8	8	24	4
Sodium	ppm	1	597	1983	28
Potassium	ppm	2	280	686	8

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. No evidence of coolant present in the oil. 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	5	11	3
Copper	ppm	8	83	169	1
Lead	ppm	0	7	26	2
Tin	ppm	<1	0	0	<1
Aluminum	ppm	4	2	3	3
Chromium	ppm	<1	<1	<1	1
Molybdenum	ppm	116	63	118	45
Nickel	ppm	0	<1	<1	0
Titanium	ppm	0	<1	<1	<1
Silver	ppm	0	<1	<1	<1
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	<1



ADDITIVES

Calcium	ppm	1475	1722	1591	1531
Magnesium	ppm	664	536	488	723
Zinc	ppm	861	893	818	1119
Phosphorus	ppm	746	723	709	1012
Barium	ppm	0	0	0	0
Boron	ppm	382	33	14	47

Depot: ROCLOR
Unique No: 10550014
Signed: Jonathan Hester
Report Date: 12 Jul 2023



GRAPHS

