

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH40M 101800-1215 - Diesel Engine

Sample No: LH06041949

Oil Type: DIESEL ENGINE OIL SAE 15W40



DIEHL AND NUEMAIER
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SAMPLE INFORMATION

Sample Number	LH06041949	LH05942820	LHMC102080	LH05773282
Sample Date	20 Dec 2023	04 Sep 2023	21 May 2023	20 Feb 2023
Machine Hours	6013	5752	5502	5251
Oil Hours	0	5752	0	0
Oil Changed	Changed	Not Changd	Not Changd	Not Changd
Sample Status	ABNORMAL	NORMAL	NORMAL	NORMAL



OIL CONDITION

Visc @ 100°C	cSt	12.7	12.3	12.2	12.4
Base Number (BN)	mg KOH/g	3.4	5.3	6.8	9.1
Oxidation (PA)	%	129	93	79	65



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.2	0.2	0.1	0.1
Nitration (PA)	%	150	114	99	90
Sulfation (PA)	%	84	70	61	53
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	10	8	8	7
Sodium	ppm	2	3	3	1
Potassium	ppm	2	2	4	1



WEAR METALS

Iron	ppm	13	10	6	4
Copper	ppm	3	3	2	1
Lead	ppm	7	5	2	2
Tin	ppm	<1	<1	<1	<1
Aluminum	ppm	2	2	0	1
Chromium	ppm	<1	<1	0	<1
Molybdenum	ppm	2	3	4	3
Nickel	ppm	0	0	0	0
Titanium	ppm	27	23	24	25
Silver	ppm	<1	<1	0	<1
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	<1	0	<1



ADDITIVES

Calcium	ppm	2122	2077	2117	2132
Magnesium	ppm	625	610	581	564
Zinc	ppm	1151	1042	1109	1018
Phosphorus	ppm	959	863	877	866
Barium	ppm	0	<1	0	0
Boron	ppm	77	88	135	169

Diagnosis

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. All component wear rates are normal. There is no indication of any contamination in the oil. The BN level is low.

Depot: DIEDEF
 Unique No: 10802557
 Signed: Sean Felton
 Report Date: 22 Dec 2023



GRAPHS

