

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH40M 101800-1215 - Diesel Engine

Sample No: LH05942820

Oil Type: DIESEL ENGINE OIL SAE 15W40



DIEHL AND NUEMAIER
 5466 NORWAY GROVE SCHOOL RD
 DE FOREST, WI
 US 53532
 Contact: ELLIOT DIEHL
 diehlneumaier@yahoo.com
 T: (608)846-4824
 F: (608)846-2077



SAMPLE INFORMATION

Sample Number	LH05942820	LHMC102080	LH05773282	LH05688274
Sample Date	04 Sep 2023	21 May 2023	20 Feb 2023	07 Nov 2022
Machine Hours	5752	5502	5251	5008
Oil Hours	5752	0	0	0
Oil Changed	Not Changd	Not Changd	Not Changd	Changed
Sample Status	NORMAL	NORMAL	NORMAL	ATTENTION



OIL CONDITION

Visc @ 100°C	cSt	12.3	12.2	12.4	10.9
Base Number (BN)	mg KOH/g	5.3	6.8	9.1	4.6
Oxidation (PA)	%	93	79	65	106



CONTAMINATION

Soot %	%	0.2	0.1	0.1	0.2
Nitration (PA)	%	114	99	90	119
Sulfation (PA)	%	70	61	53	82
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	8	8	7	9
Sodium	ppm	3	3	1	1
Potassium	ppm	2	4	1	0



WEAR METALS

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



ADDITIVES

Calcium	ppm	2077	2117	2132	1490
Magnesium	ppm	610	581	564	675
Zinc	ppm	1042	1109	1018	893
Phosphorus	ppm	863	877	866	741
Barium	ppm	<1	0	0	0
Boron	ppm	88	135	169	19

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.

Depot: DIEDEF
 Unique No: 10633432
 Signed: Wes Davis
 Report Date: 06 Sep 2023

LIEBHERR

CONSTRUCTION EQUIPMENT



GRAPHS

