

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH50M 1216-109503 - Diesel Engine

Sample No: LHMC162800

Oil Type: MOBIL DELVAC 1 5W40



AHLSTROM-MUNKSJO NA SPECIALTY
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SAMPLE INFORMATION

Sample Number	LHMC162800	LHMC162820	LHMC162811	LHMC163387
Sample Date	15 Sep 2023	06 Jul 2023	23 Mar 2023	15 Mar 2022
Machine Hours	6608	5973	5400	4809
Oil Hours	634	574	591	737
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL



OIL CONDITION

Visc @ 100°C	cSt	12.9	13.1	13.2	13.1
Base Number (BN)	mg KOH/g	3.8	4.3	4.3	4.2
Oxidation (PA)	%	198	193	189	218



CONTAMINATION

Soot %	%	0.1	0.1	0.1	0.2
Nitration (PA)	%	94	94	94	103
Sulfation (PA)	%	111	109	109	120
Glycol	%	NEG	NEG	0.0	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	12	14	12	13
Sodium	ppm	1	<1	0	0
Potassium	ppm	<1	3	2	2



WEAR METALS

Iron	ppm	2	4	0	7
Copper	ppm	2	2	2	2
Lead	ppm	1	1	<1	2
Tin	ppm	<1	<1	0	<1
Aluminum	ppm	0	2	1	3
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	45	47	48	47
Nickel	ppm	0	<1	0	0
Titanium	ppm	0	<1	<1	0
Silver	ppm	<1	0	0	<1
Manganese	ppm	<1	<1	0	<1
Vanadium	ppm	0	<1	0	0



ADDITIVES

Calcium	ppm	1037	1064	1018	1050
Magnesium	ppm	916	951	832	928
Zinc	ppm	1246	1332	1194	1296
Phosphorus	ppm	1015	1066	1014	1046
Barium	ppm	0	1	0	0
Boron	ppm	57	80	87	85

Diagnosis

Oil and filter change at the time of sampling has been noted. 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: AHLKAU
 Unique No: 10660148
 Signed: Don Baldrige
 Report Date: 26 Sep 2023

Contact/Location: JOE SEITZ - AHLKAU



GRAPHS

