

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH40M 1202-75629 - Diesel Engine

Sample No: LHMC99442

Oil Type: LIEBHERR MOTOROIL 10W-40 LOW ASH



SAMPLE INFORMATION

Sample Number	LHMC99442	LHMC100341	LHMC79599	LHMC99431
Sample Date	22 Jan 2024	13 Feb 2023	22 Nov 2022	13 Aug 2020
Machine Hours	12340	10878	10524	6190
Oil Hours	52	138	35	551
Oil Changed	Not Changd	Changed	Not Changd	Changed
Sample Status	ABNORMAL	NORMAL	NORMAL	NORMAL

PSC METALS INC
 656 NEW CASTLE RD
 SLIPPERY ROCK, PA
 US 16057
 Contact: SERVICE MANAGER



OIL CONDITION

Visc @ 100°C	cSt	12.1	13.2	13.8	14.4
Base Number (BN)	mg KOH/g	8.7	8.3	10.3	---
Oxidation (PA)	%	69	82	80	85

T:
F:



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.4	1.2	0.5	1.1
Nitration (PA)	%	63	95	74	103
Sulfation (PA)	%	52	60	59	60
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	5.9	<1.0	<1.0	<1.0
Silicon	ppm	7	8	8	9
Sodium	ppm	2	3	2	6
Potassium	ppm	2	3	2	13

Diagnosis

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.



WEAR METALS

Iron	ppm	9	26	15	20
Copper	ppm	2	3	1	3
Lead	ppm	<1	1	1	2
Tin	ppm	<1	<1	<1	1
Aluminum	ppm	2	5	3	12
Chromium	ppm	0	<1	<1	<1
Molybdenum	ppm	2	2	2	28
Nickel	ppm	0	0	<1	<1
Titanium	ppm	0	0	0	<1
Silver	ppm	0	0	<1	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	<1	0



ADDITIVES

Calcium	ppm	1382	1380	1457	1366
Magnesium	ppm	832	771	829	863
Zinc	ppm	935	925	933	832
Phosphorus	ppm	821	780	816	728
Barium	ppm	0	0	0	0
Boron	ppm	175	68	155	33

Depot: PSCSLI
Unique No: 10848731
Signed: Wes Davis
Report Date: 30 Jan 2024



GRAPHS

