

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR 24459 - Diesel Engine

Sample No: LH0220493

Oil Type: LIEBHERR MOTOROIL 10W-40 LOW ASH



SAMPLE INFORMATION

Sample Number	LH0220493	LH0220486	LH0220483	---
Sample Date	19 Jun 2023	28 Apr 2023	23 Mar 2023	---
Machine Hours	1526	936	464	---
Oil Hours	589	936	464	---
Oil Changed	Not Changd	Changed	Not Changd	---
Sample Status	NORMAL	ABNORMAL	ATTENTION	---

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OIL CONDITION

Visc @ 100°C	cSt	12.6	11.4	11.7	---
Base Number (BN)	mg KOH/g	8.1	3.4	5.5	---
Oxidation (PA)	%	93	192	187	---

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.



CONTAMINATION

Soot %	%	0.1	0.1	0.1	---
Nitration (PA)	%	76	88	86	---
Sulfation (PA)	%	60	99	103	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	1.6	1.6	---
Silicon	ppm	5	17	18	---
Sodium	ppm	0	0	2	---
Potassium	ppm	3	3	3	---



WEAR METALS

Iron	ppm	9	21	16	---
Copper	ppm	22	80	61	---
Lead	ppm	1	2	1	---
Tin	ppm	1	1	1	---
Aluminum	ppm	2	<1	2	---
Chromium	ppm	0	<1	0	---
Molybdenum	ppm	7	43	45	---
Nickel	ppm	0	0	0	---
Titanium	ppm	<1	<1	0	---
Silver	ppm	0	0	0	---
Manganese	ppm	1	4	5	---
Vanadium	ppm	0	0	0	---



ADDITIVES

Calcium	ppm	1437	1370	1532	---
Magnesium	ppm	768	805	978	---
Zinc	ppm	914	826	1002	---
Phosphorus	ppm	781	632	774	---
Barium	ppm	<1	11	0	---
Boron	ppm	145	94	119	---

Depot: LIEGIL
 Unique No: 10552515
 Signed: Wes Davis
 Report Date: 13 Jul 2023



GRAPHS

