

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH60M 120561-1217 - Diesel Engine

Sample No: LH0253859

Oil Type: DIESEL ENGINE OIL SAE 5W40



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SAMPLE INFORMATION

Sample Number	LH0253859	LH0220671	LH0199946	---
Sample Date	08 Sep 2023	22 Nov 2022	11 Feb 2022	---
Machine Hours	3762	1973	983	---
Oil Hours	0	500	0	---
Oil Changed	Changed	Changed	Changed	---
Sample Status	ABNORMAL	NORMAL	NORMAL	---



OIL CONDITION

Visc @ 100°C	cSt	12.3	13.3	13.3	---
Base Number (BN)	mg KOH/g	3.1	7.2	6.9	---
Oxidation (PA)	%	110	77	86	---



CONTAMINATION

Soot %	%	0.1	0.1	0.1	---
Nitration (PA)	%	98	84	85	---
Sulfation (PA)	%	78	66	68	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	1.8	<1.0	<1.0	---
Silicon	ppm	8	9	9	---
Sodium	ppm	31	3	3	---
Potassium	ppm	26	6	3	---



WEAR METALS

Iron	ppm	45	5	7	---
Copper	ppm	7	5	71	---
Lead	ppm	0	1	2	---
Tin	ppm	<1	<1	1	---
Aluminum	ppm	20	2	3	---
Chromium	ppm	3	<1	<1	---
Molybdenum	ppm	67	5	4	---
Nickel	ppm	0	<1	0	---
Titanium	ppm	0	91	77	---
Silver	ppm	0	<1	<1	---
Manganese	ppm	2	<1	<1	---
Vanadium	ppm	0	1	1	---



ADDITIVES

Calcium	ppm	1261	1319	1446	---
Magnesium	ppm	974	687	705	---
Zinc	ppm	1311	1194	1092	---
Phosphorus	ppm	1060	982	952	---
Barium	ppm	0	<1	0	---
Boron	ppm	4	87	103	---

Diagnosis

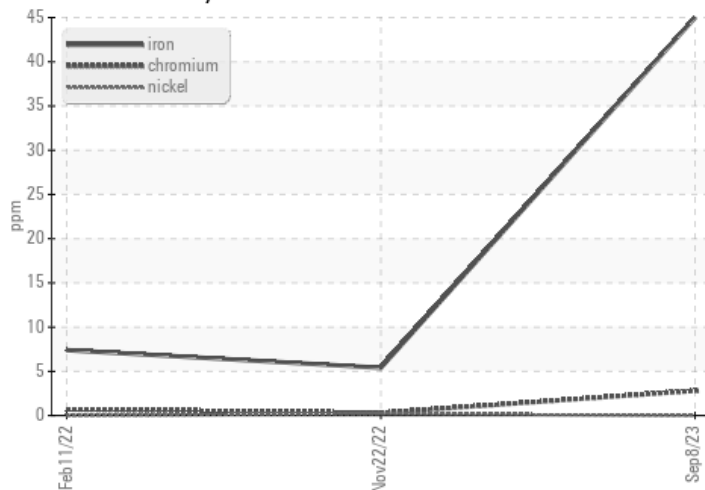
The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. The aluminum level is abnormal. All other component wear rates are normal. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN level is low. Confirm oil type.

Depot: LEC0008
 Unique No: 10670541
 Signed: Jonathan Hester
 Report Date: 02 Oct 2023

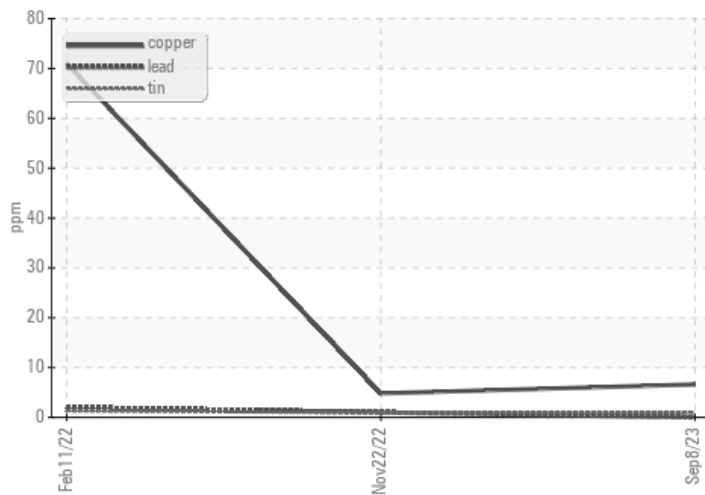


GRAPHS

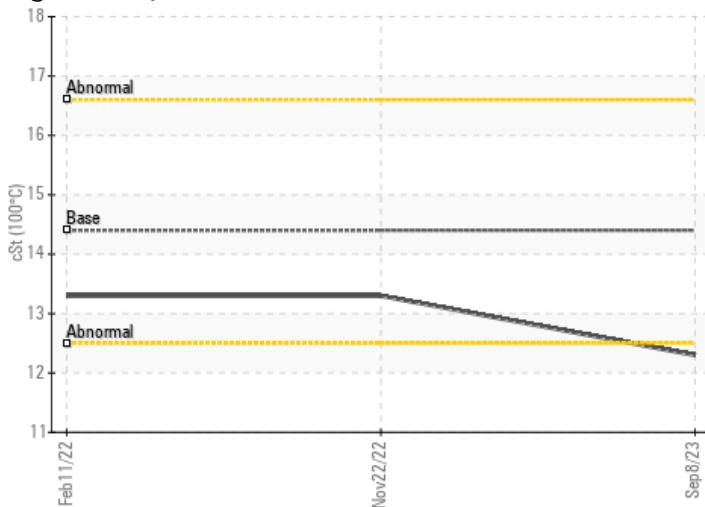
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

