

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR L586 069044-1761- Diesel Engine

Sample No: LH0267647

Oil Type: DIESEL ENGINE OIL SAE 5W40



SAMPLE INFORMATION

Sample Number	LH0267647	LHMC155691	---	---
Sample Date	22 Nov 2023	27 Oct 2022	---	---
Machine Hours	1985	760	---	---
Oil Hours	0	760	---	---
Oil Changed	Changed	Changed	---	---
Sample Status	NORMAL	ATTENTION	---	---

MIDDLE RIVER MARINE

1771 SOUTH TORRENCE AVE
CHICAGO, IL

US 60617

Contact: Scott Molitor

scottmolitor@gomiddleriver.com

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F:



OIL CONDITION

Visc @ 100°C	cSt	13.6	11.8	---	---
Base Number (BN)	mg KOH/g	6.7	4.6	---	---
Oxidation (PA)	%	61	237	---	---



CONTAMINATION

Water	%	NEG	NEG	---	---
Soot %	%	0.1	0.1	---	---
Nitration (PA)	%	71	107	---	---
Sulfation (PA)	%	55	122	---	---
Glycol	%	NEG	NEG	---	---
Fuel	%	<1.0	1.8	---	---
Silicon	ppm	9	10	---	---
Sodium	ppm	3	1	---	---
Potassium	ppm	4	10	---	---



WEAR METALS

Iron	ppm	4	12	---	---
Copper	ppm	16	135	---	---
Lead	ppm	<1	7	---	---
Tin	ppm	<1	1	---	---
Aluminum	ppm	1	4	---	---
Chromium	ppm	<1	<1	---	---
Molybdenum	ppm	5	44	---	---
Nickel	ppm	0	0	---	---
Titanium	ppm	3	<1	---	---
Silver	ppm	0	0	---	---
Manganese	ppm	<1	2	---	---
Vanadium	ppm	<1	0	---	---



ADDITIVES

Calcium	ppm	1327	1337	---	---
Magnesium	ppm	724	874	---	---
Zinc	ppm	884	802	---	---
Phosphorus	ppm	785	659	---	---
Barium	ppm	2	24	---	---
Boron	ppm	78	86	---	---

Diagnosis

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. 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: MIDCHIL

Unique No: 10831436

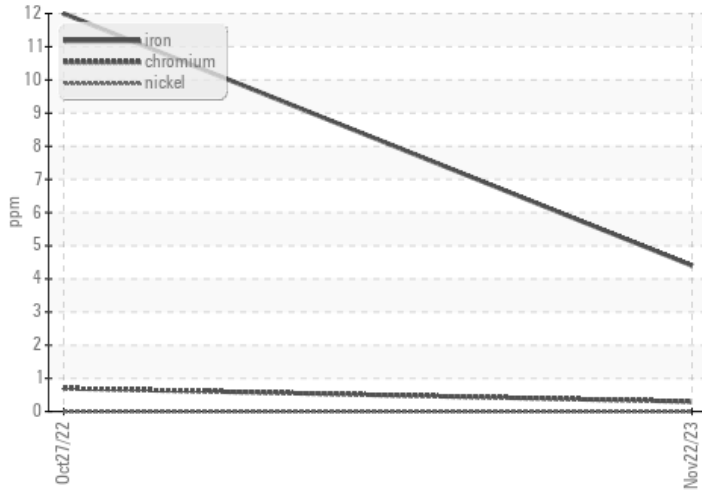
Signed: Wes Davis

Report Date: 16 Jan 2024

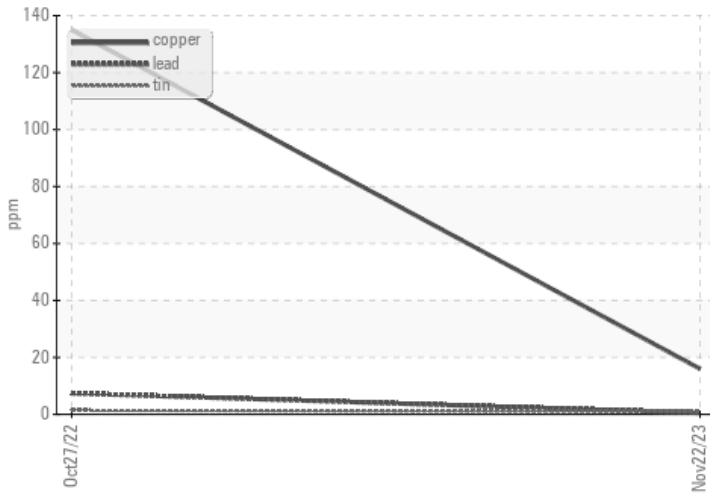


GRAPHS

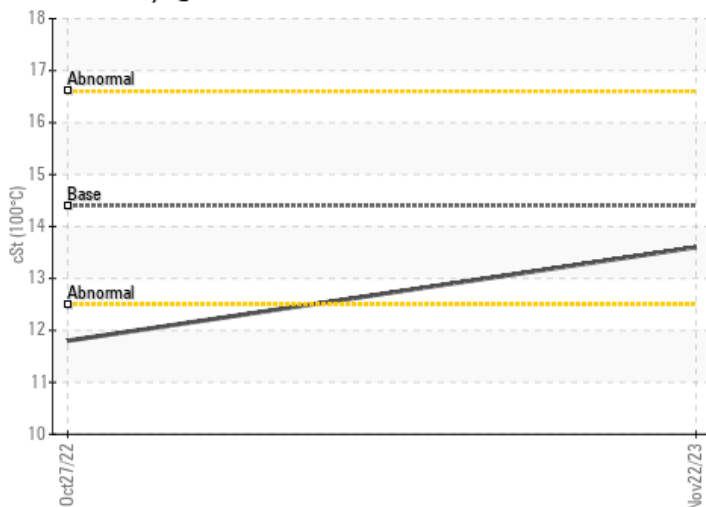
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

