

LIEBHERR

CONSTRUCTION EQUIPMENT



MS19 - Front Left Wheel Hub

Sample No: LH0244645

Oil Type: GEAR OIL SAE 80W90



SAMPLE INFORMATION

Sample Number	LH0244645	LHMC131458	---	---
Sample Date	08 Dec 2023	03 Aug 2023	---	---
Machine Hours	3512	2706	---	---
Oil Hours	0	0	---	---
Oil Changed	Not Chngd	N/A	---	---
Sample Status	NORMAL	NORMAL	---	---

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OIL CONDITION

Visc @ 40°C	cSt	● 123	● 124	---	---
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CONTAMINATION

Water	%	NEG	NEG	---	---
Silicon	ppm	● 2	● 1	---	---
Sodium	ppm	● 4	● 5	---	---
Potassium	ppm	● 0	● 0	---	---

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 condition of the oil is acceptable for the time in service.



WEAR METALS

Iron	ppm	● 40	● 25	---	---
Copper	ppm	● 16	● 11	---	---
Lead	ppm	● 0	● 0	---	---
Tin	ppm	0	0	---	---
Aluminum	ppm	● 0	● 0	---	---
Chromium	ppm	● 0	● 0	---	---
Molybdenum	ppm	● 0	0	---	---
Nickel	ppm	● 0	● 0	---	---
Titanium	ppm	0	0	---	---
Silver	ppm	0	0	---	---
Manganese	ppm	● <1	<1	---	---
Vanadium	ppm	0	0	---	---



ADDITIVES

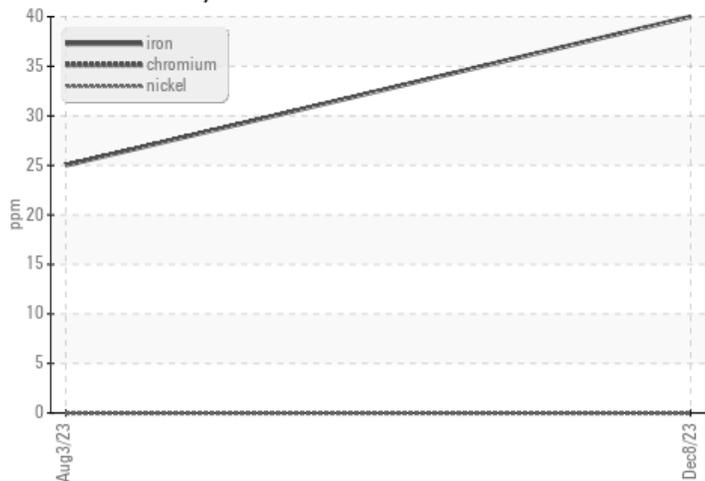
Calcium	ppm	● 228	239	---	---
Magnesium	ppm	● 0	3	---	---
Zinc	ppm	● 147	143	---	---
Phosphorus	ppm	● 923	910	---	---
Barium	ppm	● 0	0	---	---
Boron	ppm	● 171	212	---	---

Depot: OSCLAF
Unique No: 10807077
Signed: Jonathan Hester
Report Date: 29 Dec 2023

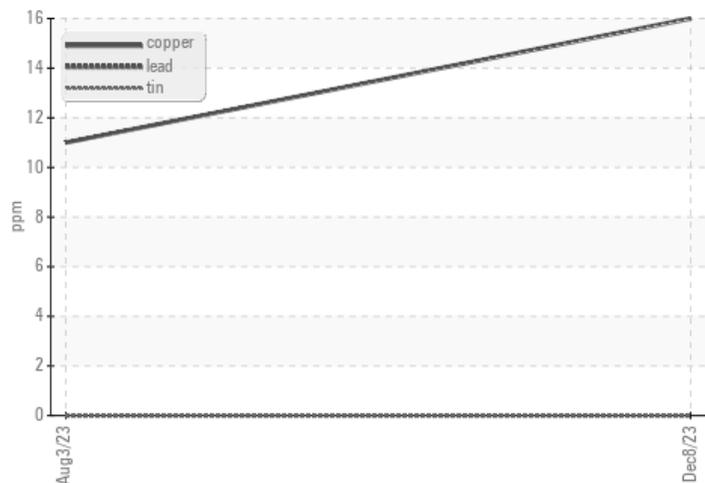


GRAPHS

Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C

