

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR R945 57224 - Diesel Engine

Sample No: LH0268317

Oil Type: LIEBHERR MOTOROIL 5W30



M&F CONCRETE PRODUCTS CO
4002 CATLETT RD
CATLETT, VA
US 20119
Contact: Service Manager



SAMPLE INFORMATION

Sample Number	LH0268317	---	---	---
Sample Date	03 Mar 2024	---	---	---
Machine Hours	522	---	---	---
Oil Hours	522	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ABNORMAL	---	---	---



OIL CONDITION

Visc @ 100°C	cSt	12.0	---	---	---
Base Number (BN)	mg KOH/g	4.0	---	---	---
Oxidation (PA)	%	200	---	---	---

T:
F:



CONTAMINATION

Water	%	NEG	---	---	---
Soot %	%	0.1	---	---	---
Nitration (PA)	%	103	---	---	---
Sulfation (PA)	%	106	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	<1.0	---	---	---
Silicon	ppm	15	---	---	---
Sodium	ppm	1	---	---	---
Potassium	ppm	5	---	---	---

Diagnosis

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor. The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other metal levels are typical for a new component breaking in. 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 acceptable for the time in service.



WEAR METALS

Iron	ppm	16	---	---	---
Copper	ppm	315	---	---	---
Lead	ppm	4	---	---	---
Tin	ppm	2	---	---	---
Aluminum	ppm	5	---	---	---
Chromium	ppm	2	---	---	---
Molybdenum	ppm	43	---	---	---
Nickel	ppm	<1	---	---	---
Titanium	ppm	1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	2	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

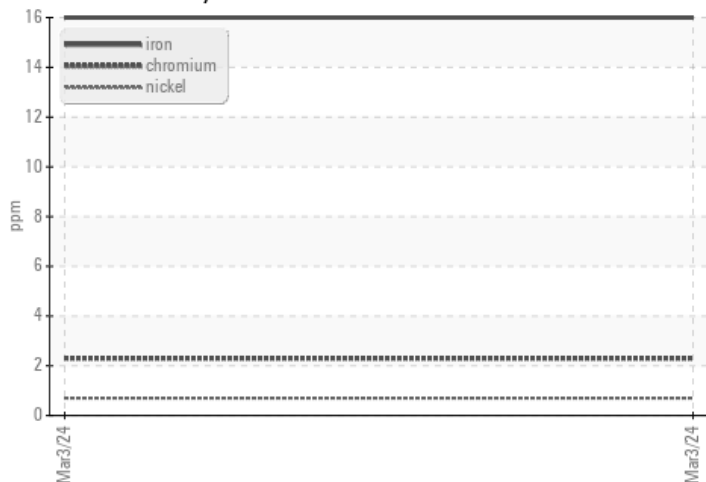
Calcium	ppm	1493	---	---	---
Magnesium	ppm	879	---	---	---
Zinc	ppm	918	---	---	---
Phosphorus	ppm	782	---	---	---
Barium	ppm	20	---	---	---
Boron	ppm	105	---	---	---

Depot: MECCAT
Unique No: 10941058
Signed: Sean Felton
Report Date: 26 Mar 2024



GRAPHS

Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

