

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR TA230 146110-1513 - Diesel Engine

Sample No: LH0272031

Oil Type: LIEBHERR MOTOROIL 5W30



LIEBHERR EQUIPMENT SOURCE
 8200 FAYETTEVILLE ROAD
 RALEIGH, NC
 US 27603
 Contact: TAYLOR BLALOCK
 taylor.blalock@liebherr.com
 T: (757)718-0491
 F: (919)329-0084



Sample Information

Sample Number	LH0272031	---	---	---
Sample Date	23 Apr 2024	---	---	---
Machine Hours	0	---	---	---
Oil Hours	658	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ABNORMAL	---	---	---



Oil Condition

Visc @ 100°C	cSt	11.1	---	---	---
Base Number (BN)	mg KOH/g	6.1	---	---	---
Oxidation (PA)	%	71	---	---	---



Contamination

Water	%	NEG	---	---	---
Soot %	%	0.1	---	---	---
Nitration (PA)	%	77	---	---	---
Sulfation (PA)	%	58	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	<1.0	---	---	---
Silicon	ppm	6	---	---	---
Sodium	ppm	4	---	---	---
Potassium	ppm	1	---	---	---



Wear Metals

Iron	ppm	4	---	---	---
Copper	ppm	247	---	---	---
Lead	ppm	0	---	---	---
Tin	ppm	<1	---	---	---
Aluminum	ppm	1	---	---	---
Chromium	ppm	0	---	---	---
Molybdenum	ppm	4	---	---	---
Nickel	ppm	0	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	<1	---	---	---
Vanadium	ppm	0	---	---	---



Additives

Calcium	ppm	1319	---	---	---
Magnesium	ppm	754	---	---	---
Zinc	ppm	837	---	---	---
Phosphorus	ppm	748	---	---	---
Barium	ppm	7	---	---	---
Boron	ppm	79	---	---	---

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 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.

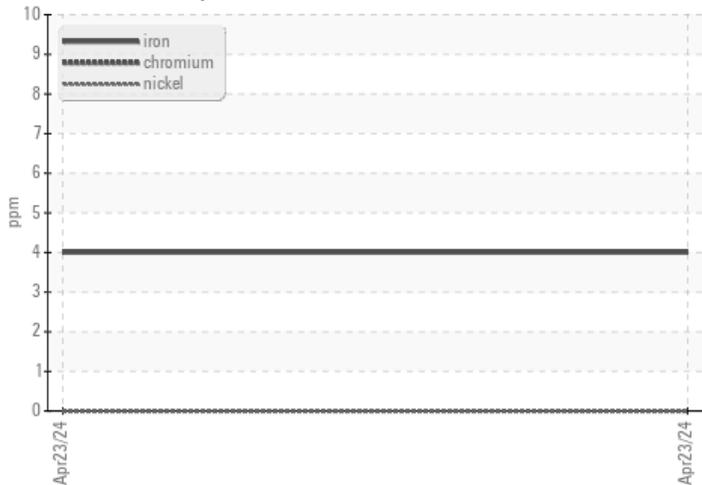
Depot: LIEBHERRNC
Unique No: 10995526
Signed: Don Baldrige
Report Date: 26 Apr 2024

Submitted By: TAYLOR BLALOCK

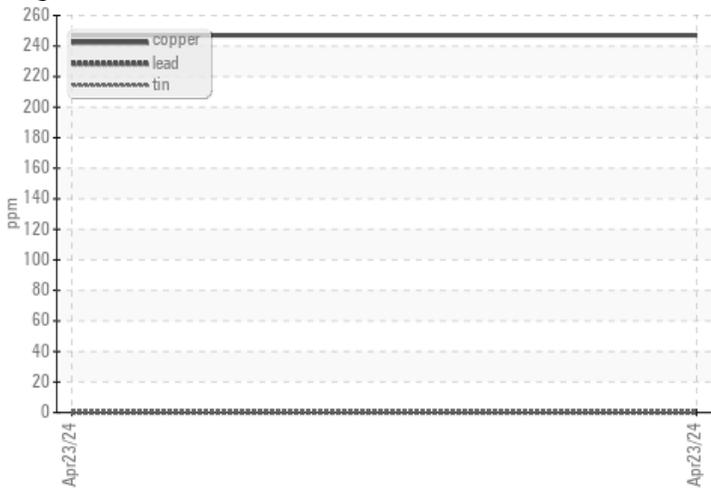


Graphs

Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

