

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR L546 L546 (S/N 064310-1755) - Diesel Engine

Sample No: LH0264580

Oil Type: LIEBHERR MOTOROIL 10W-40



Sample Information

Sample Number	LH0264580	---	---	---
Sample Date	01 Apr 2024	---	---	---
Machine Hours	825	---	---	---
Oil Hours	825	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ABNORMAL	---	---	---

LIEBHERR EQUIPMENT SOURCE

8200 FAYETTEVILLE ROAD
RALEIGH, NC
US 27603
Contact: TAYLOR BLALOCK
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T: (757)718-0491
F: (919)329-0084



Oil Condition

Visc @ 100°C	cSt	10.7	---	---	---
Base Number (BN)	mg KOH/g	7.2	---	---	---
Oxidation (PA)	%	85	---	---	---



Contamination

Water	%	NEG	---	---	---
Soot %	%	0.3	---	---	---
Nitration (PA)	%	93	---	---	---
Sulfation (PA)	%	67	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	1.8	---	---	---
Silicon	ppm	11	---	---	---
Sodium	ppm	7	---	---	---
Potassium	ppm	2	---	---	---



Wear Metals

Iron	ppm	52	---	---	---
Copper	ppm	425	---	---	---
Lead	ppm	<1	---	---	---
Tin	ppm	5	---	---	---
Aluminum	ppm	5	---	---	---
Chromium	ppm	<1	---	---	---
Molybdenum	ppm	196	---	---	---
Nickel	ppm	3	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	4	---	---	---
Vanadium	ppm	0	---	---	---



Additives

Calcium	ppm	1475	---	---	---
Magnesium	ppm	728	---	---	---
Zinc	ppm	1069	---	---	---
Phosphorus	ppm	918	---	---	---
Barium	ppm	0	---	---	---
Boron	ppm	71	---	---	---

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. Fuel content negligible. No other contaminants were detected in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

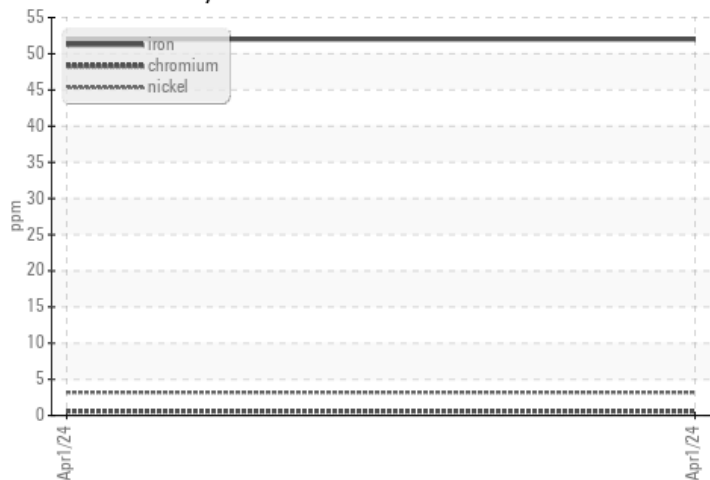
Depot: LIEBHERRNC
Unique No: 10956526
Signed: Sean Felton
Report Date: 05 Apr 2024

Submitted By: TAYLOR BLALOCK



Graphs

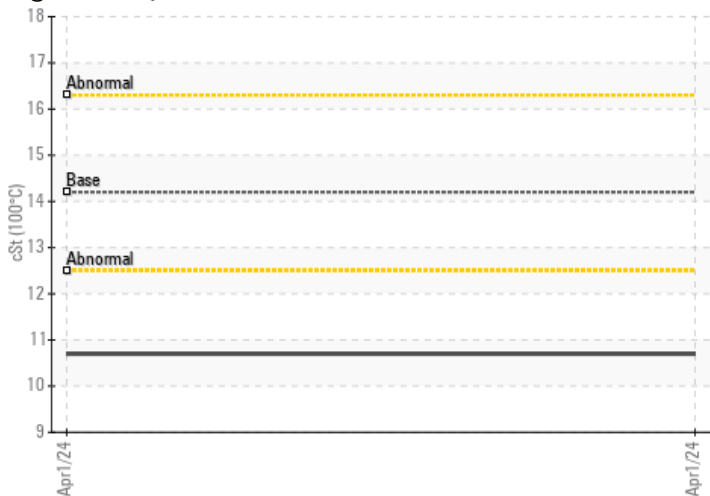
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

