

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR LH60M 1204-91655 - Diesel Engine

Sample No: LH0243883

Oil Type: DIESEL ENGINE OIL SAE 5W30



#### LIEBHERR EQUIPMENT SOURCE

4100 CHESTNUT AVENUE  
NEWPORT NEWS, VA  
US 23607

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#### SAMPLE INFORMATION

Sample Number	LH0243883	LH0220402	LH0158095	LHMC104003
Sample Date	22 Feb 2024	04 Oct 2022	28 May 2020	08 Mar 2018
Machine Hours	17102	14908	9204	2994
Oil Hours	0	500	250	250
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	ABNORMAL	NORMAL



#### OIL CONDITION

Visc @ 100°C	cSt	13.2	14.3	14.0	15.06
Base Number (BN)	mg KOH/g	8.1	9.5	---	---
Oxidation (PA)	%	53	88	37	40



#### CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.6	2.1	0.3	0.8
Nitration (PA)	%	69	130	48	58
Sulfation (PA)	%	52	71	46	53
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	8	8	6	3
Sodium	ppm	2	3	3	4
Potassium	ppm	0	3	2	5



#### WEAR METALS

Iron	ppm	10	32	6	16
Copper	ppm	3	3	125	2
Lead	ppm	0	4	<1	<1
Tin	ppm	0	<1	<1	0
Aluminum	ppm	4	5	2	5
Chromium	ppm	0	<1	<1	<1
Molybdenum	ppm	0	1	4	5
Nickel	ppm	0	0	0	<1
Titanium	ppm	2	<1	0	0
Silver	ppm	0	0	<1	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	<1	0	0



#### ADDITIVES

Calcium	ppm	1368	2087	2950	3301
Magnesium	ppm	677	609	74	81
Zinc	ppm	797	957	973	1117
Phosphorus	ppm	699	804	884	821
Barium	ppm	0	2	0	0
Boron	ppm	92	63	4	11

#### Diagnosis

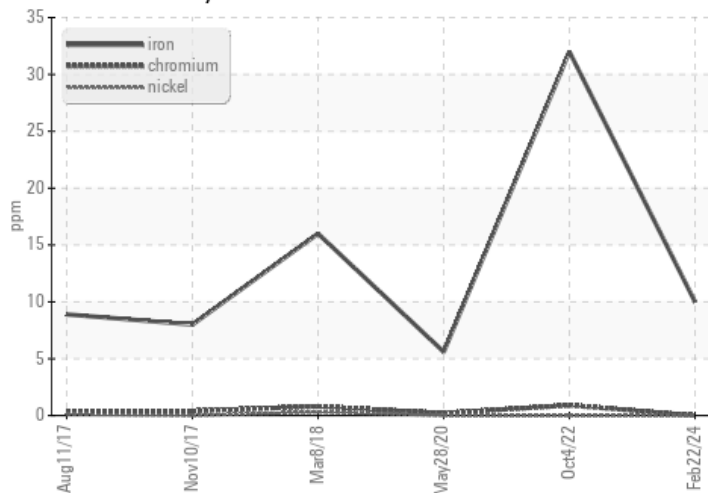
Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Depot: LIEBHERRUS  
Unique No: 10915366  
Signed: Don Baldrige  
Report Date: 10 Mar 2024

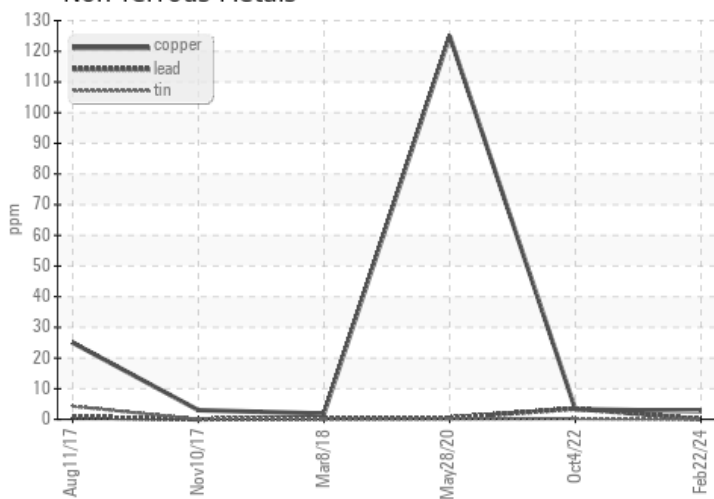


### GRAPHS

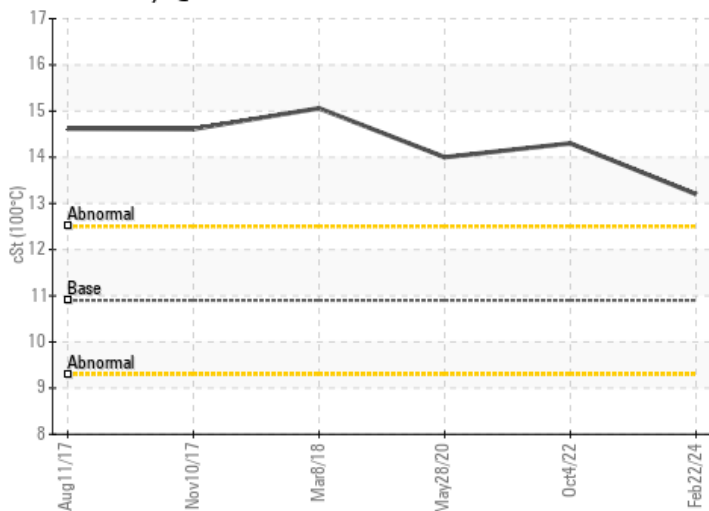
#### Ferrous Alloys



#### Non-ferrous Metals



#### Viscosity @ 100°C



#### Base Number

