

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR LH50 109502-1216 - Diesel Engine

Sample No: LH0258805

Oil Type: LIEBHERR MOTOROIL 5W30



**AMERICAN STATE EQUIPMENT CO.**  
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#### SAMPLE INFORMATION

Sample Number	LH0258805	LHMC149770	---	---
Sample Date	04 Mar 2024	26 Feb 2019	---	---
Machine Hours	22219	827	---	---
Oil Hours	0	827	---	---
Oil Changed	Not Chngd	Changed	---	---
Sample Status	NORMAL	ABNORMAL	---	---



#### OIL CONDITION

Visc @ 100°C	cSt	13.1	11.72	---	---
Base Number (BN)	mg KOH/g	10.1	---	---	---
Oxidation (PA)	%	79	185	---	---



#### CONTAMINATION

Water	%	NEG	NEG	---	---
Soot %	%	0	0.1	---	---
Nitration (PA)	%	45	87	---	---
Sulfation (PA)	%	59	102	---	---
Glycol	%	NEG	NEG	---	---
Fuel	%	<1.0	<1.0	---	---
Silicon	ppm	11	9	---	---
Sodium	ppm	<1	2	---	---
Potassium	ppm	2	1	---	---



#### WEAR METALS

Iron	ppm	5	13	---	---
Copper	ppm	1	432	---	---
Lead	ppm	2	4	---	---
Tin	ppm	1	0	---	---
Aluminum	ppm	3	2	---	---
Chromium	ppm	<1	<1	---	---
Molybdenum	ppm	45	47	---	---
Nickel	ppm	<1	0	---	---
Titanium	ppm	<1	0	---	---
Silver	ppm	0	<1	---	---
Manganese	ppm	<1	1	---	---
Vanadium	ppm	<1	0	---	---



#### ADDITIVES

Calcium	ppm	1822	1396	---	---
Magnesium	ppm	514	913	---	---
Zinc	ppm	967	876	---	---
Phosphorus	ppm	816	796	---	---
Barium	ppm	1	38	---	---
Boron	ppm	79	115	---	---

#### Diagnosis

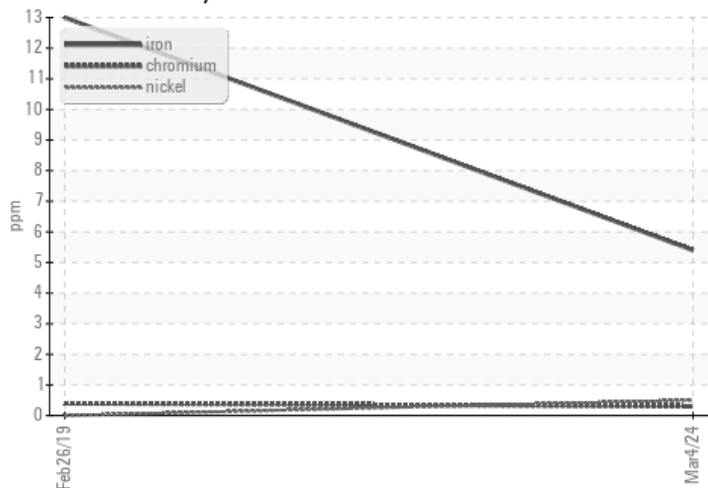
Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Depot: LEC0008  
 Unique No: 10942638  
 Signed: Don Baldrige  
 Report Date: 28 Mar 2024

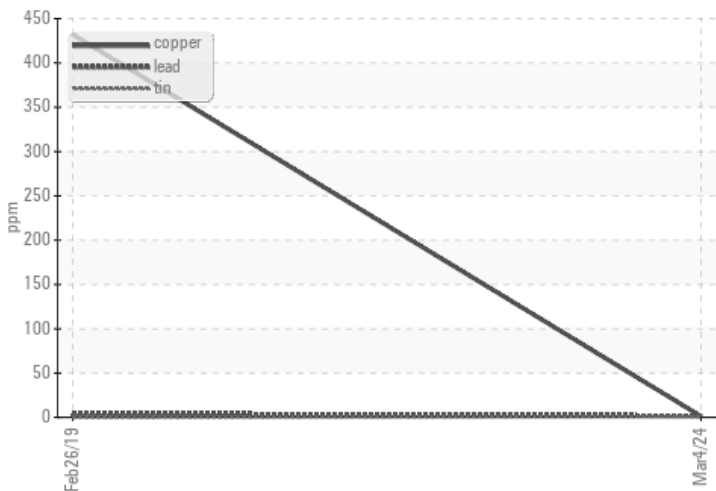


### GRAPHS

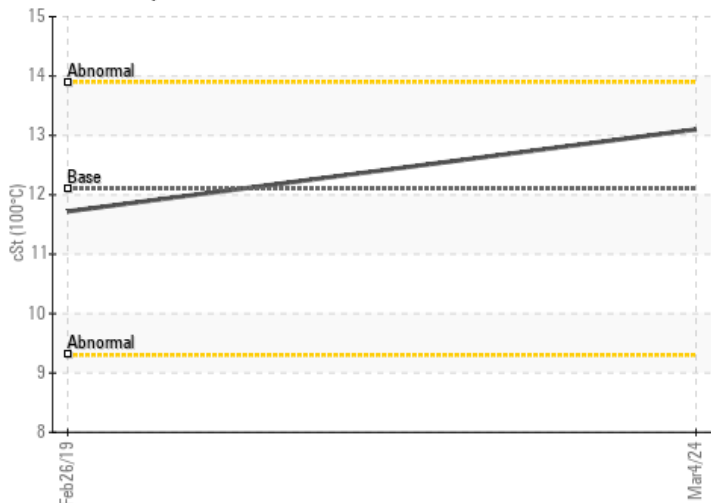
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

