

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR LH60C1212-70843 - Diesel Engine

Sample No: LH0267352

Oil Type: LIEBHERR MOTOROIL 10W-40 LOW ASH



#### SAMPLE INFORMATION

Sample Number	LH0267352	LHMC94639	---	---
Sample Date	11 Aug 2023	01 Dec 2015	---	---
Machine Hours	3522	339	---	---
Oil Hours	3522	339	---	---
Oil Changed	Changed	Changed	---	---
Sample Status	NORMAL	NORMAL	---	---

**MIDDLE GROUND MARINE INC**  
 500 BARNES RD  
 CHESAPEAKE, VA  
 US 23324  
 Contact:



#### OIL CONDITION

Visc @ 100°C	cSt	13.9	14.55	---	---
Base Number (BN)	mg KOH/g	6.8	---	---	---
Oxidation (PA)	%	84	56	---	---

T:  
F:

#### 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 suitable for further service.



#### CONTAMINATION

Soot %	%	0.9	0.3	---	---
Nitration (PA)	%	95	67	---	---
Sulfation (PA)	%	60	53	---	---
Glycol	%	NEG	NEG	---	---
Fuel	%	<1.0	<1.0	---	---
Silicon	ppm	10	10	---	---
Sodium	ppm	4	7	---	---
Potassium	ppm	3	0	---	---



#### WEAR METALS

Iron	ppm	60	90	---	---
Copper	ppm	13	125	---	---
Lead	ppm	1	3	---	---
Tin	ppm	<1	<1	---	---
Aluminum	ppm	22	30	---	---
Chromium	ppm	2	2	---	---
Molybdenum	ppm	8	0	---	---
Nickel	ppm	0	1	---	---
Titanium	ppm	<1	<1	---	---
Silver	ppm	0	<1	---	---
Manganese	ppm	1	2	---	---
Vanadium	ppm	<1	0	---	---



#### ADDITIVES

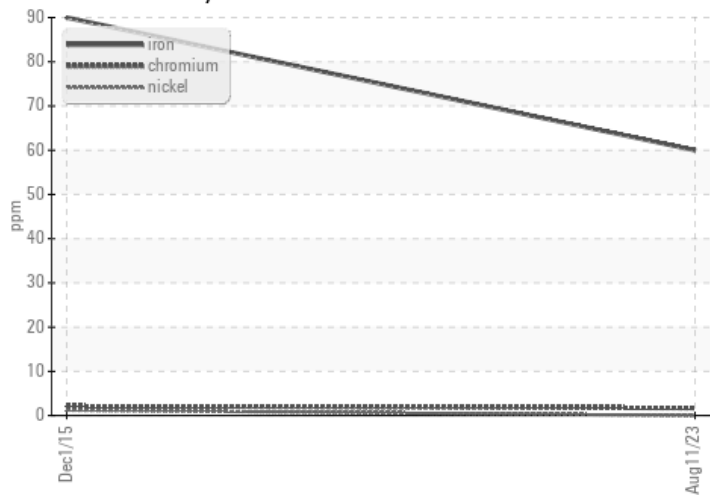
Calcium	ppm	1421	2370	---	---
Magnesium	ppm	795	15	---	---
Zinc	ppm	842	725	---	---
Phosphorus	ppm	693	582	---	---
Barium	ppm	0	18	---	---
Boron	ppm	45	2	---	---

Depot: MIDCHE  
 Unique No: 10615411  
 Signed: Jonathan Hester  
 Report Date: 23 Aug 2023

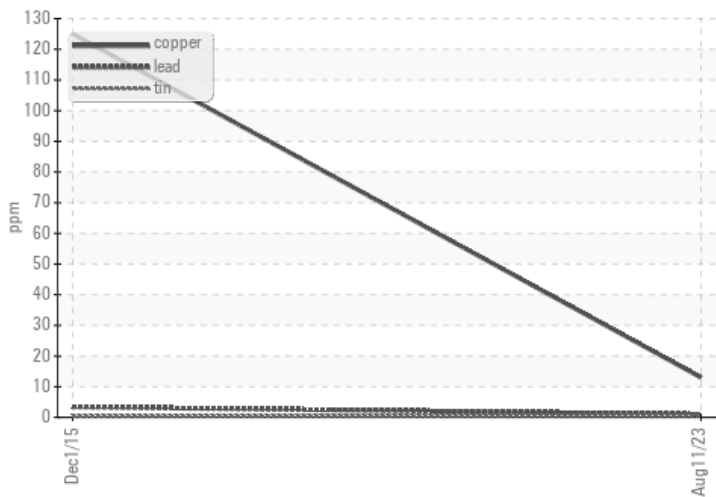


### GRAPHS

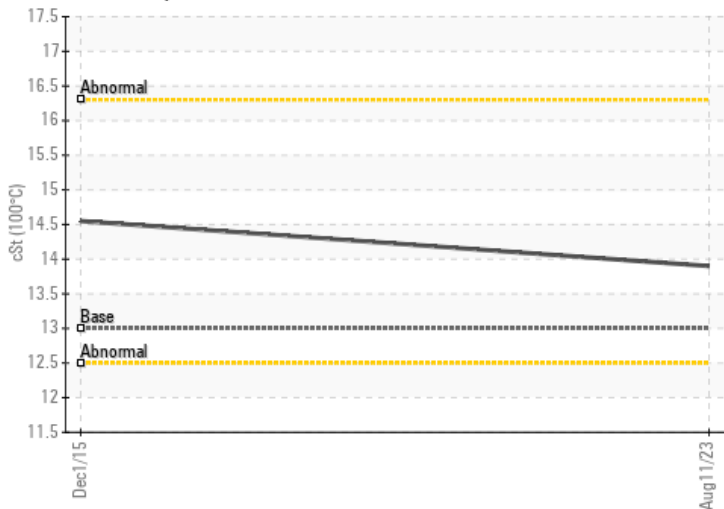
#### Ferrous Alloys



#### Non-ferrous Metals



#### Viscosity @ 100°C



#### Base Number

