

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR R936 045079-1490 - Diesel Engine

Sample No: LH0254089

Oil Type: LIEBHERR MOTOROIL 5W30



SAMPLE INFORMATION

Sample Number	LH0254089	LH0229862	---	---
Sample Date	20 Jul 2023	27 Oct 2022	---	---
Machine Hours	1185	623	---	---
Oil Hours	1185	623	---	---
Oil Changed	Changed	Changed	---	---
Sample Status	NORMAL	ABNORMAL	---	---

ACECO

10119 RESIDENCY ROAD
MANASSAS, VA
US 20110
Contact: RON BROCK



OIL CONDITION

Visc @ 100°C	cSt	● 11.2	● 11.3	---	---
Base Number (BN)	mg KOH/g	● 11.7	● 4.8	---	---
Oxidation (PA)	%	65	202	---	---

T: (703)392-0111
F: (703)331-5604



CONTAMINATION

Soot %	%	● 0.1	● 0.2	---	---
Nitration (PA)	%	107	109	---	---
Sulfation (PA)	%	54	117	---	---
Glycol	%	NEG	NEG	---	---
Fuel	%	<1.0	<1.0	---	---
Silicon	ppm	● 12	● 14	---	---
Sodium	ppm	● 3	● 4	---	---
Potassium	ppm	● 2	● 3	---	---

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.



WEAR METALS

Iron	ppm	● 14	● 19	---	---
Copper	ppm	● 55	● 342	---	---
Lead	ppm	● 2	● 7	---	---
Tin	ppm	● 2	● 2	---	---
Aluminum	ppm	● 3	● 2	---	---
Chromium	ppm	● <1	● <1	---	---
Molybdenum	ppm	● 7	● 46	---	---
Nickel	ppm	● 0	● 0	---	---
Titanium	ppm	<1	0	---	---
Silver	ppm	● <1	● 0	---	---
Manganese	ppm	● 1	● 2	---	---
Vanadium	ppm	<1	0	---	---



ADDITIVES

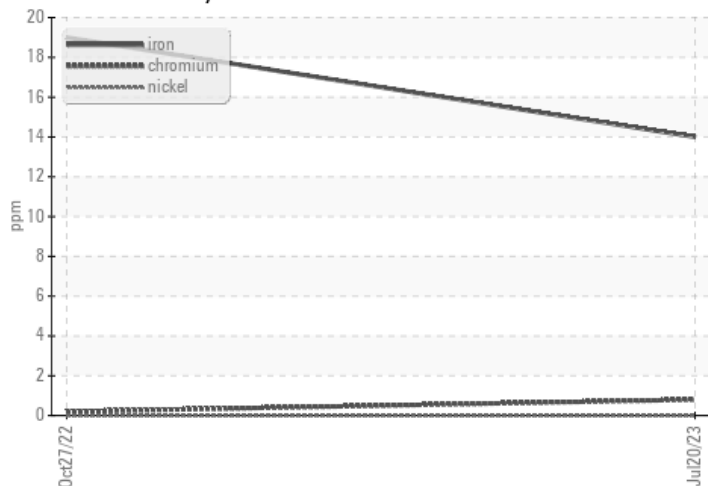
Calcium	ppm	● 3996	● 1445	---	---
Magnesium	ppm	● 139	● 853	---	---
Zinc	ppm	● 1146	● 854	---	---
Phosphorus	ppm	● 973	● 596	---	---
Barium	ppm	● 0	● 30	---	---
Boron	ppm	● 254	● 79	---	---

Depot: ACEMAN
Unique No: 10608529
Signed: Wes Davis
Report Date: 21 Aug 2023

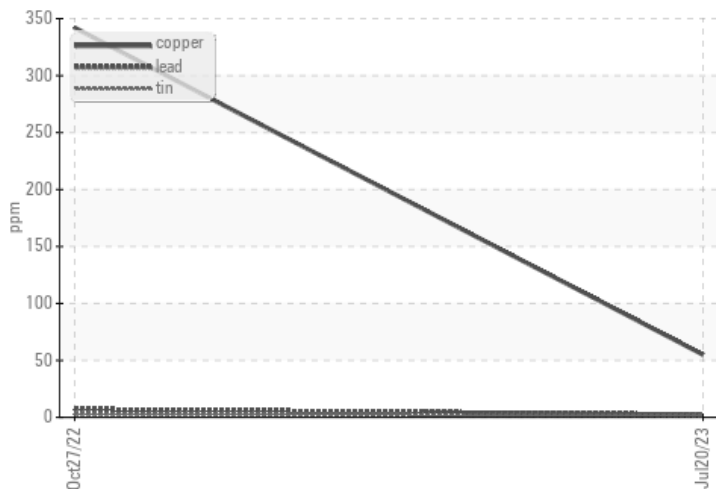


GRAPHS

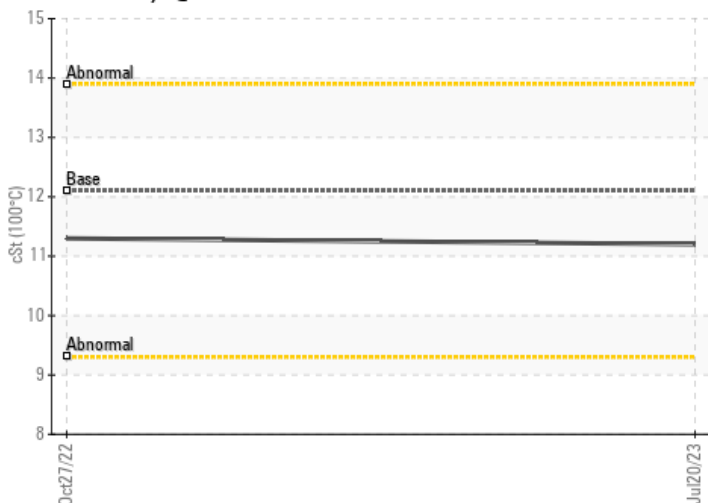
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

