

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### [[SIMS]] LIEBHERR R956 045436-1476 - Diesel Engine

Sample No: LH0229515

Oil Type: DURALENE Dura-Max 15W40



#### SAMPLE INFORMATION

Sample Number	LH0229515	LH0204456	LHMC57707	LHMC114870
Sample Date	20 Jul 2023	19 Apr 2022	04 Jun 2021	04 Jun 2021
Machine Hours	1099	4632	4022	4022
Oil Hours	1	0	3	250
Oil Changed	N/A	N/A	Changed	Changed
Sample Status	SEVERE	ABNORMAL	NORMAL	MARGINAL

#### LIEBHERR EQUIPMENT SOURCE

6940 OCONNOR CAVE  
HANOVER, MD  
US 21076

Contact: PETE JARVIS  
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T: (410)379-3994  
F: (410)379-3998



#### OIL CONDITION

Visc @ 100°C	cSt	8.4	13.0	11.9	12.7
Base Number (BN)	mg KOH/g	7.0	7.3	---	---
Oxidation (PA)	%	32	50	35	49



#### CONTAMINATION

Water	%	---	---	0.175	---
Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	44	68	78	68
Sulfation (PA)	%	40	56	38	56
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	20.1	<1.0	<1.0	<1.0
Silicon	ppm	6	6	7	5
Sodium	ppm	<1	2	67	2
Potassium	ppm	1	0	10	2

#### Diagnosis

We advise that you check the fuel injection system. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a high amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.



#### WEAR METALS

Iron	ppm	2	8	6	4
Copper	ppm	<1	164	5	2
Lead	ppm	0	4	<1	<1
Tin	ppm	<1	2	<1	<1
Aluminum	ppm	<1	2	2	2
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	3	4	<1	4
Nickel	ppm	0	0	<1	<1
Titanium	ppm	0	<1	<1	<1
Silver	ppm	0	<1	1	<1
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	<1	0



#### ADDITIVES

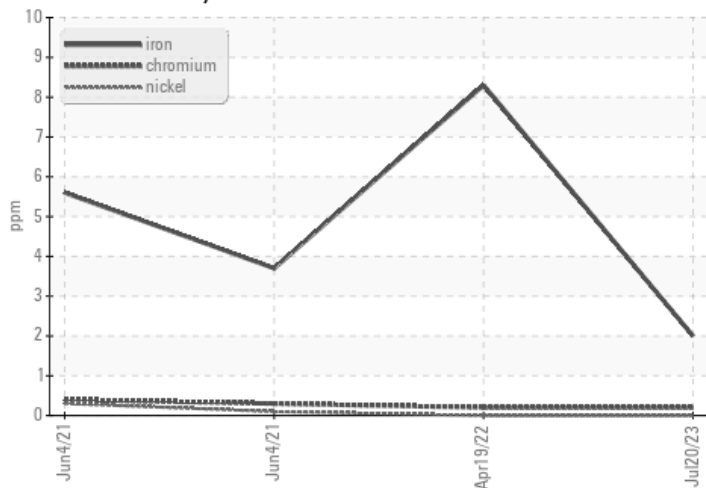
Calcium	ppm	2007	2509	3775	2346
Magnesium	ppm	47	42	26	73
Zinc	ppm	922	1153	1174	1119
Phosphorus	ppm	775	916	895	911
Barium	ppm	0	0	0	0
Boron	ppm	3	7	247	17

Depot: LIEBHERRMD  
Unique No: 10566571  
Signed: Don Baldrige  
Report Date: 26 Jul 2023

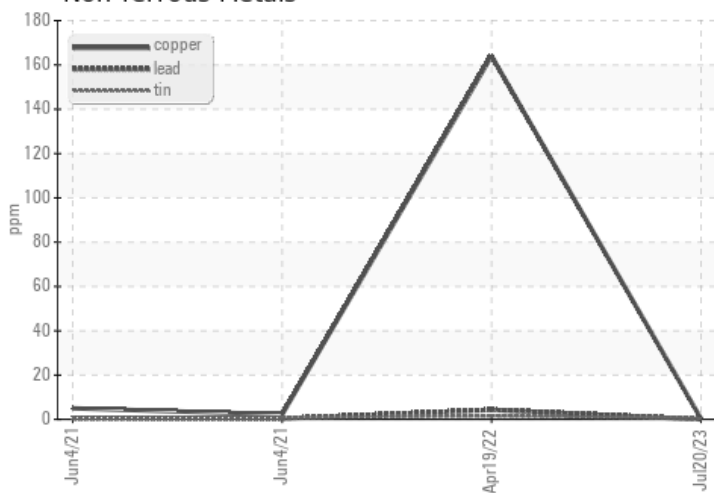


### GRAPHS

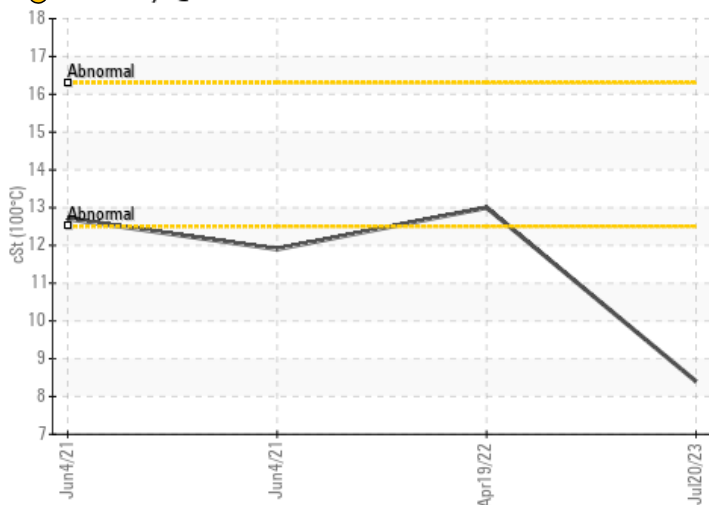
Ferrous Alloys



Non-ferrous Metals



● Viscosity @ 100°C



Base Number

