

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH50M 1203-86528 - Diesel Engine

Sample No: LH0254679

Oil Type: DIESEL ENGINE OIL 10W40



SAMPLE INFORMATION

Sample Number	LH0254679	LH0254840	LH0229497	LH0190545
Sample Date	13 Dec 2023	24 May 2023	03 Mar 2023	19 May 2021
Machine Hours	9774	9023	8579	0
Oil Hours	0	0	0	0
Oil Changed	N/A	N/A	N/A	N/A
Sample Status	NORMAL	NORMAL	ABNORMAL	ABNORMAL

LIEBHERR EQUIPMENT SOURCE

6940 OCONNOR CAVE
HANOVER, MD
US 21076

Contact: PETE JARVIS
peter.jarvis@liebherr.com
T: (410)379-3994
F: (410)379-3998



OIL CONDITION

Visc @ 100°C	cSt	14.1	13.3	13.3	14.0
Base Number (BN)	mg KOH/g	8.6	7.4	7.3	---
Oxidation (PA)	%	79	73	47	45



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.8	0.5	0.4	0.4
Nitration (PA)	%	95	88	67	73
Sulfation (PA)	%	55	55	50	50
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	7	11	11	7
Sodium	ppm	0	3	6	2
Potassium	ppm	3	5	17	1



WEAR METALS

Iron	ppm	19	15	20	16
Copper	ppm	6	48	217	439
Lead	ppm	<1	<1	5	1
Tin	ppm	<1	0	1	1
Aluminum	ppm	9	5	3	10
Chromium	ppm	<1	0	<1	1
Molybdenum	ppm	32	1	4	4
Nickel	ppm	0	0	0	<1
Titanium	ppm	0	0	<1	<1
Silver	ppm	0	0	0	<1
Manganese	ppm	<1	<1	2	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1349	1673	2132	2409
Magnesium	ppm	859	685	167	91
Zinc	ppm	901	946	1046	1075
Phosphorus	ppm	708	823	864	949
Barium	ppm	0	0	12	0
Boron	ppm	60	78	17	7

Diagnosis

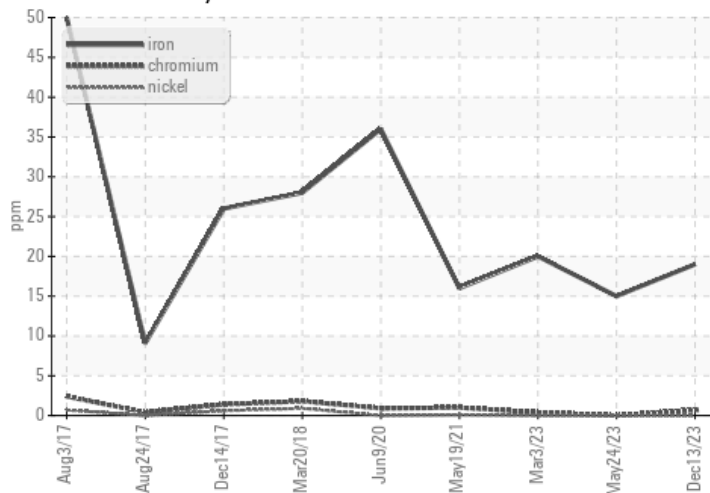
Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Depot: LIEBHERRMD
Unique No: 10807139
Signed: Wes Davis
Report Date: 28 Dec 2023

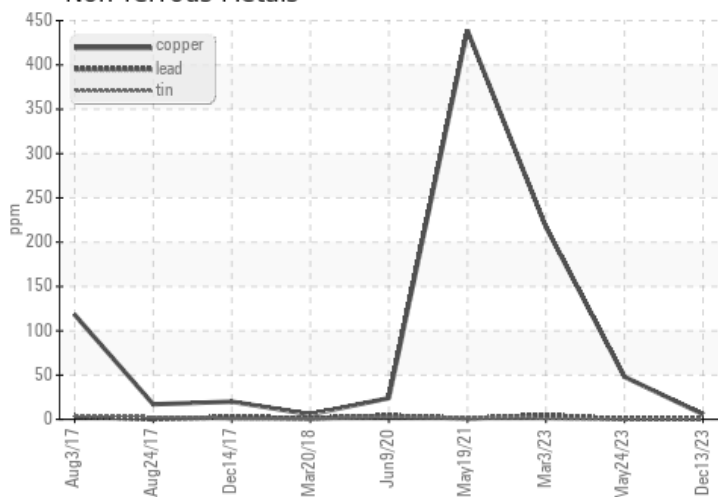


GRAPHS

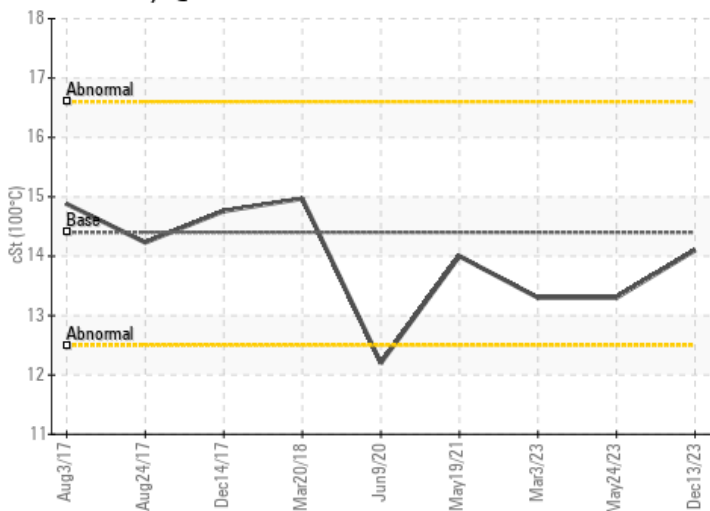
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

