

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH50 142548-1216 - Diesel Engine

Sample No: LH0258840

Oil Type: DIESEL ENGINE OIL SAE 5W40



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SAMPLE INFORMATION

Sample Number	LH0258840	LH0272482	LH0263869	LH0200313
Sample Date	15 Feb 2024	30 Oct 2023	20 Jul 2023	14 Apr 2023
Machine Hours	2537	1993	1493	1008
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	ABNORMAL	ABNORMAL



OIL CONDITION

Visc @ 100°C	cSt	12.8	12.8	13.0	13.0
Base Number (BN)	mg KOH/g	7.2	6.9	7.3	6.7
Oxidation (PA)	%	59	57	56	71



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	72	72	72	68
Sulfation (PA)	%	54	54	52	55
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	7	9	7	8
Sodium	ppm	3	1	2	1
Potassium	ppm	0	2	2	2



WEAR METALS

Iron	ppm	3	3	4	6
Copper	ppm	7	37	175	164
Lead	ppm	0	0	1	<1
Tin	ppm	<1	<1	<1	<1
Aluminum	ppm	1	2	1	0
Chromium	ppm	0	<1	0	<1
Molybdenum	ppm	6	7	15	33
Nickel	ppm	0	<1	0	0
Titanium	ppm	84	81	69	34
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	1	1	<1



ADDITIVES

Calcium	ppm	1272	1338	1288	1102
Magnesium	ppm	635	774	741	775
Zinc	ppm	993	1326	1161	1106
Phosphorus	ppm	908	1061	941	905
Barium	ppm	0	0	0	0
Boron	ppm	106	87	74	52

Diagnosis

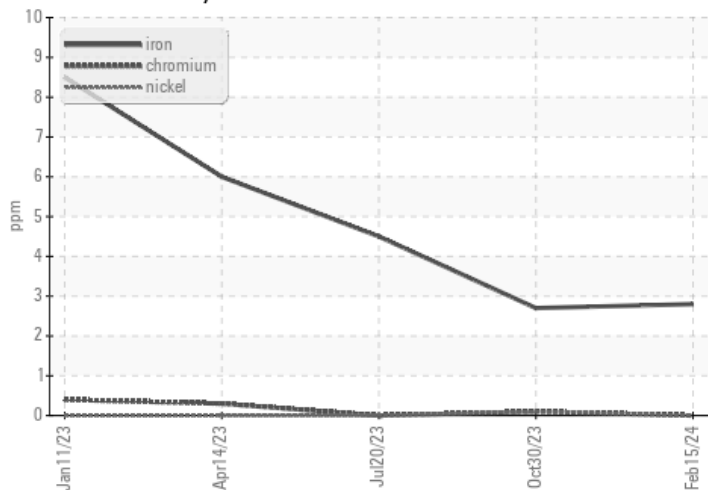
Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil.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

Depot: LEC0008
 Unique No: 10896460
 Signed: Wes Davis
 Report Date: 26 Feb 2024

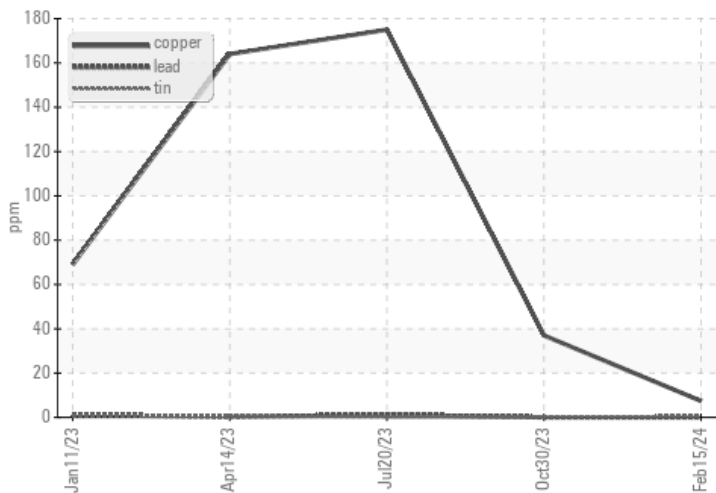


GRAPHS

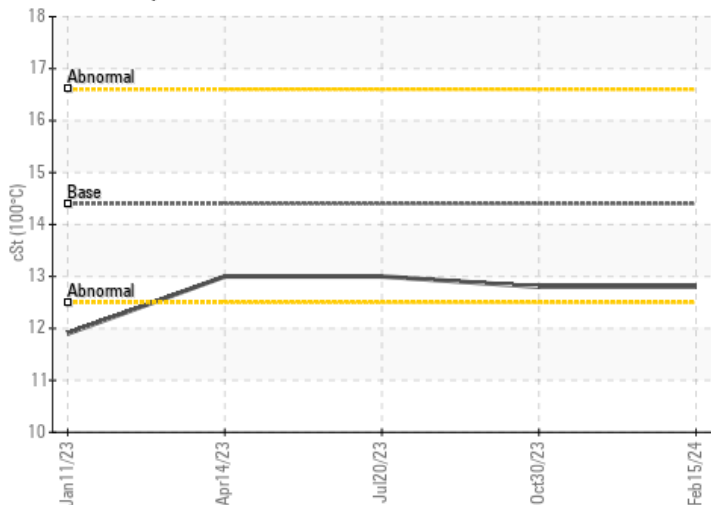
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

