

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH110CP 134678-1228 - Diesel Engine

Sample No: LH0273238

Oil Type: {unknown}



SAMPLE INFORMATION

Sample Number	LH0273238	LH0243283	LH0244565	LH0243196
Sample Date	10 Jan 2024	10 Jul 2023	16 Mar 2023	28 Dec 2022
Machine Hours	4973	3458	2952	2465
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	N/A
Sample Status	NORMAL	ABNORMAL	NORMAL	NORMAL

RECO EQUIPMENT INC.

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 MONROE, OH
 US 45050
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OIL CONDITION

Visc @ 100°C	cSt	11.5	11.3	11.2	11.4
Base Number (BN)	mg KOH/g	13.9	14.1	14.9	11.4
Oxidation (PA)	%	57	52	51	51



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.2	0.1
Nitration (PA)	%	123	115	114	113
Sulfation (PA)	%	48	46	45	45
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	2.1	<1.0	<1.0
Silicon	ppm	8	7	8	8
Sodium	ppm	3	2	<1	2
Potassium	ppm	0	2	3	3



WEAR METALS

Iron	ppm	9	9	9	10
Copper	ppm	1	2	1	2
Lead	ppm	<1	<1	0	<1
Tin	ppm	<1	<1	<1	<1
Aluminum	ppm	2	3	4	4
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	2	1	<1	<1
Nickel	ppm	0	0	<1	<1
Titanium	ppm	0	<1	<1	<1
Silver	ppm	0	<1	0	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	<1	0	0	0



ADDITIVES

Calcium	ppm	4330	4650	4316	4369
Magnesium	ppm	37	30	22	28
Zinc	ppm	1261	1281	1132	1225
Phosphorus	ppm	1073	1081	961	982
Barium	ppm	0	0	0	0
Boron	ppm	244	216	288	217

Diagnosis

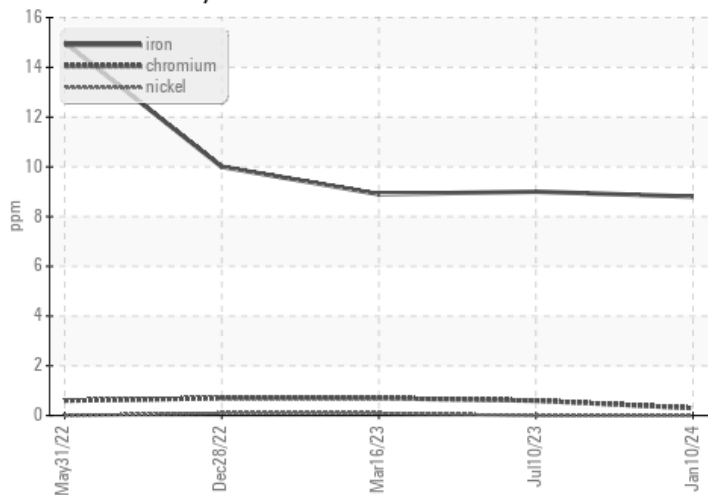
Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates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

Depot: LEC0075
 Unique No: 10832045
 Signed: Jonathan Hester
 Report Date: 17 Jan 2024

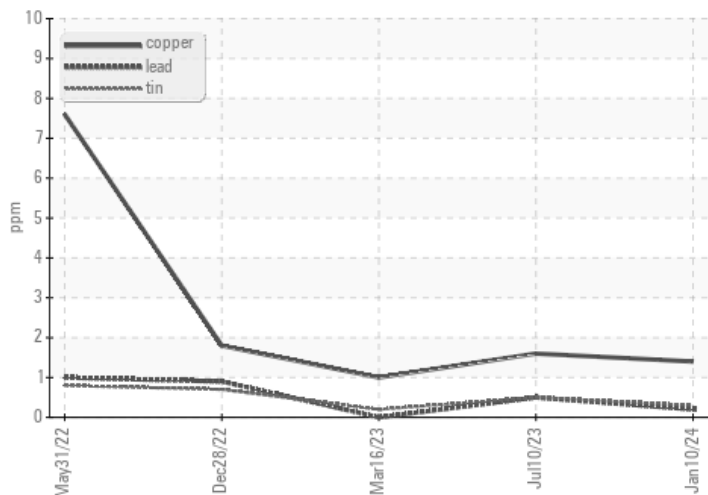


GRAPHS

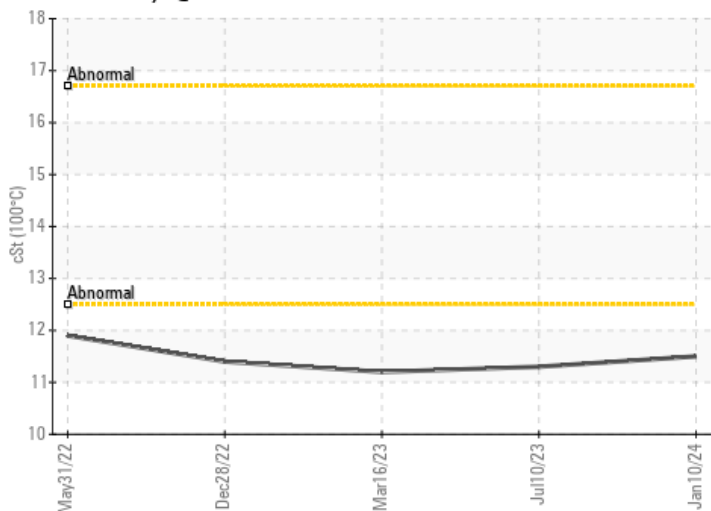
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

