

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH50M 1216-108671 - Diesel Engine

Sample No: LH0258754

Oil Type: CHEVRON DELO LE 5W40



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SAMPLE INFORMATION

Sample Number	LH0258754	LH0272710	LH0272537	LH0272539
Sample Date	23 Feb 2024	17 Jan 2024	14 Dec 2023	01 Nov 2023
Machine Hours	20036	19562	19125	18598
Oil Hours	0	0	1000	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL



OIL CONDITION

Visc @ 100°C	cSt	13.1	12.9	13.1	13.0
Base Number (BN)	mg KOH/g	7.4	7.3	7.0	6.7
Oxidation (PA)	%	56	57	58	63



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	69	69	70	73
Sulfation (PA)	%	53	54	54	59
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	7	7	9	9
Sodium	ppm	2	3	0	2
Potassium	ppm	1	2	4	1



WEAR METALS

Iron	ppm	4	4	5	4
Copper	ppm	1	3	3	4
Lead	ppm	0	0	0	0
Tin	ppm	0	0	<1	<1
Aluminum	ppm	1	1	3	1
Chromium	ppm	0	0	<1	0
Molybdenum	ppm	6	11	7	4
Nickel	ppm	0	0	<1	0
Titanium	ppm	85	67	92	85
Silver	ppm	0	0	0	<1
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	<1	1	1



ADDITIVES

Calcium	ppm	1392	1456	1313	1341
Magnesium	ppm	664	667	687	772
Zinc	ppm	1131	1258	1165	1281
Phosphorus	ppm	934	1021	1005	1073
Barium	ppm	0	0	9	0
Boron	ppm	126	98	110	67

Diagnosis

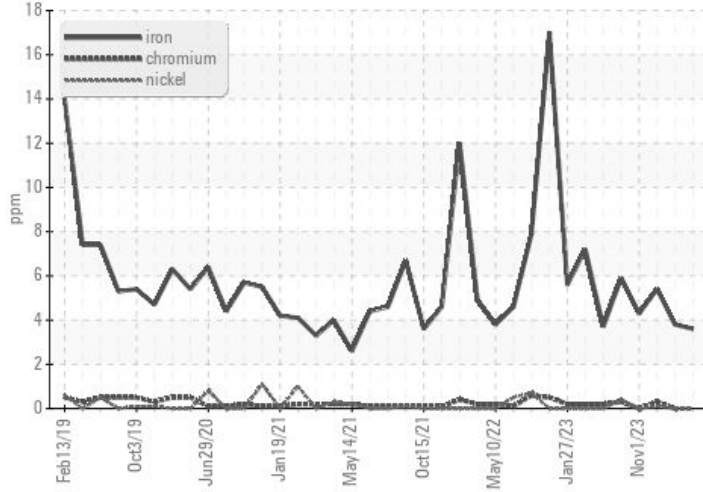
Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Depot: LEC0008
 Unique No: 10915365
 Signed: Wes Davis
 Report Date: 08 Mar 2024

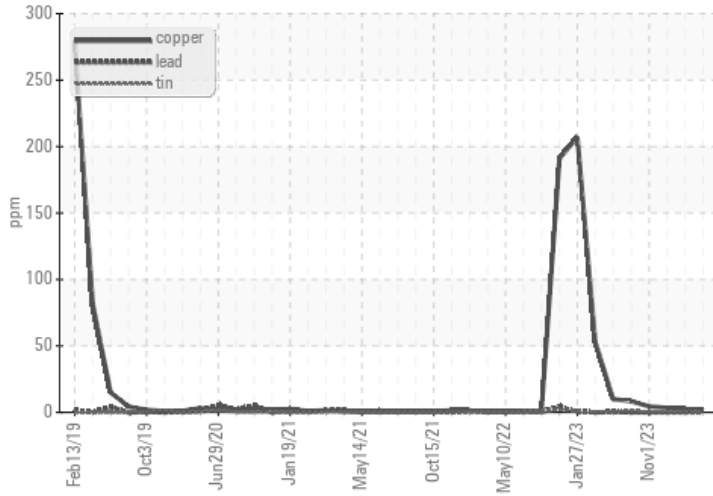


GRAPHS

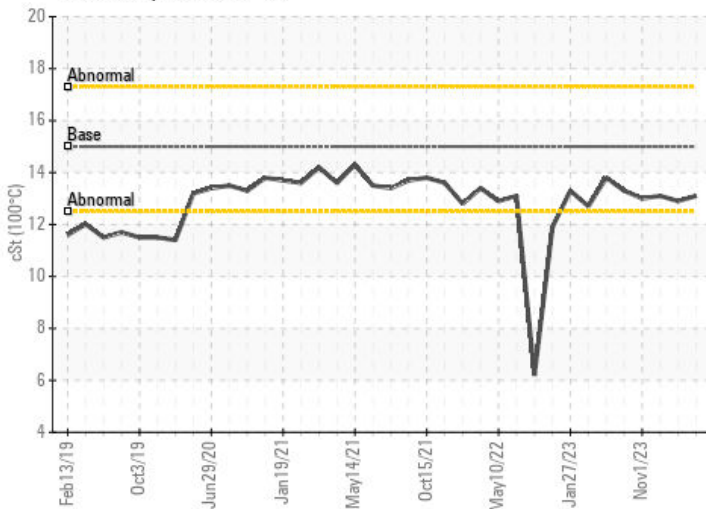
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

