

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH50M 1216-108671 - Diesel Engine

Sample No: LH0272537

Oil Type: CHEVRON DELO LE 5W40



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SAMPLE INFORMATION

Sample Number	LH0272537	LH0272539	LH0243417	LH0263829
Sample Date	14 Dec 2023	01 Nov 2023	05 Sep 2023	29 Jun 2023
Machine Hours	19125	18598	17864	17296
Oil Hours	1000	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL



OIL CONDITION

Visc @ 100°C	cSt	13.1	13.0	13.3	13.8
Base Number (BN)	mg KOH/g	7.0	6.7	6.9	8.4
Oxidation (PA)	%	58	63	56	55



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	70	73	69	70
Sulfation (PA)	%	54	59	53	52
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	9	9	9	8
Sodium	ppm	0	2	4	2
Potassium	ppm	4	1	5	4



WEAR METALS

Iron	ppm	5	4	6	4
Copper	ppm	3	4	8	10
Lead	ppm	0	0	0	<1
Tin	ppm	<1	<1	1	<1
Aluminum	ppm	3	1	2	0
Chromium	ppm	<1	0	<1	<1
Molybdenum	ppm	7	4	11	16
Nickel	ppm	<1	0	<1	0
Titanium	ppm	92	85	73	66
Silver	ppm	0	<1	<1	0
Manganese	ppm	<1	<1	1	<1
Vanadium	ppm	1	1	<1	<1



ADDITIVES

Calcium	ppm	1313	1341	1350	1303
Magnesium	ppm	687	772	776	758
Zinc	ppm	1165	1281	1264	1201
Phosphorus	ppm	1005	1073	1026	970
Barium	ppm	9	0	0	0
Boron	ppm	110	67	72	92

Diagnosis

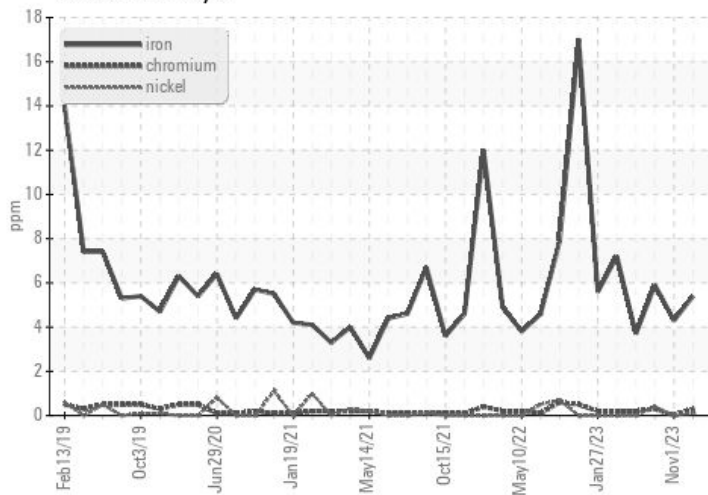
Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Depot: LEC0008
 Unique No: 10805983
 Signed: Wes Davis
 Report Date: 27 Dec 2023

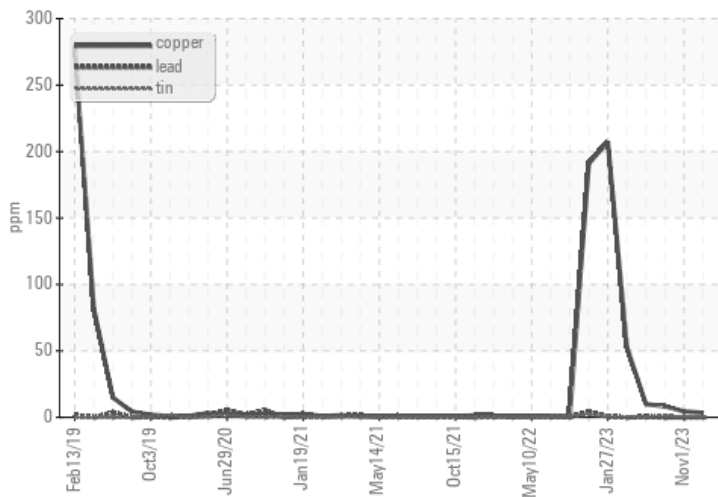


GRAPHS

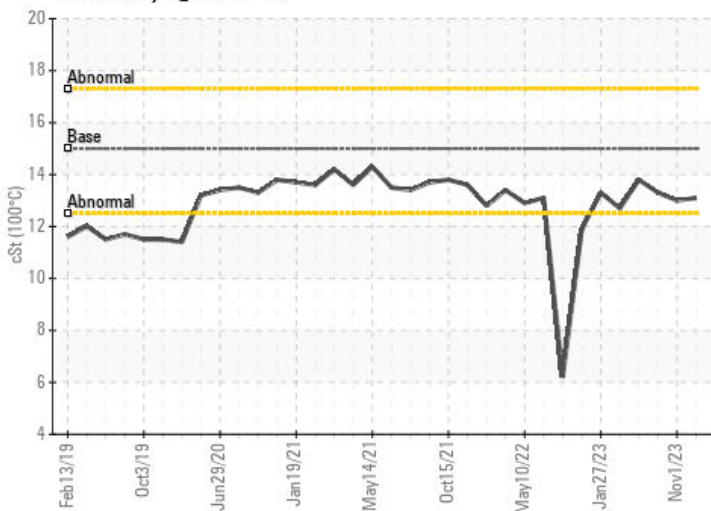
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

