

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH50 1216-115017 - Diesel Engine

Sample No: LH0263959

Oil Type: DIESEL ENGINE OIL SAE 5W40



SAMPLE INFORMATION

Sample Number	LH0263959	LH0243323	LH0263876	LH0243381
Sample Date	30 Jan 2024	29 Sep 2023	05 Aug 2023	03 Apr 2023
Machine Hours	8879	8189	7823	7172
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	MARGINAL	NORMAL	NORMAL	NORMAL

ALTER RECYCLING

2175 BADGERLAND DR
GREEN BAY, WI
US 54303

Contact: LORI GRAVES

lori.graves@altertrading.com

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OIL CONDITION

Visc @ 100°C	cSt	12.4	13.1	12.7	12.9
Base Number (BN)	mg KOH/g	6.6	7.2	6.5	6.4
Oxidation (PA)	%	65	53	60	63



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	74	69	73	74
Sulfation (PA)	%	58	50	54	58
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	2.3	<1.0	<1.0	<1.0
Silicon	ppm	8	8	8	8
Sodium	ppm	0	0	2	2
Potassium	ppm	<1	4	3	3



WEAR METALS

Iron	ppm	0	4	6	7
Copper	ppm	2	<1	2	1
Lead	ppm	<1	0	<1	0
Tin	ppm	0	0	<1	0
Aluminum	ppm	<1	1	0	0
Chromium	ppm	<1	0	0	0
Molybdenum	ppm	3	7	14	4
Nickel	ppm	0	0	0	0
Titanium	ppm	86	90	70	87
Silver	ppm	0	0	<1	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	<1	<1	<1



ADDITIVES

Calcium	ppm	1264	1293	1385	1332
Magnesium	ppm	724	710	791	617
Zinc	ppm	1176	1277	1256	1150
Phosphorus	ppm	957	1032	1003	967
Barium	ppm	0	0	0	2
Boron	ppm	81	102	50	98

Diagnosis

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time. Please specify the brand, type, and viscosity of the oil on your next sample. All component wear rates are normal. Light fuel dilution occurring. No other contaminants were detected 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: ALTGRE

Unique No: 10862460

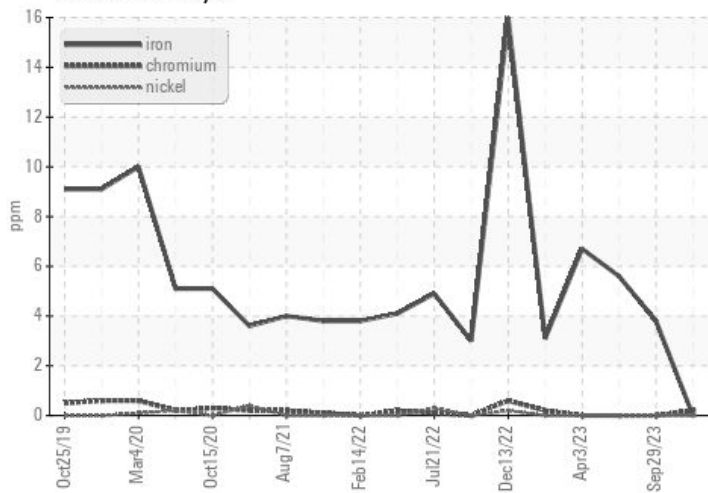
Signed: Wes Davis

Report Date: 07 Feb 2024

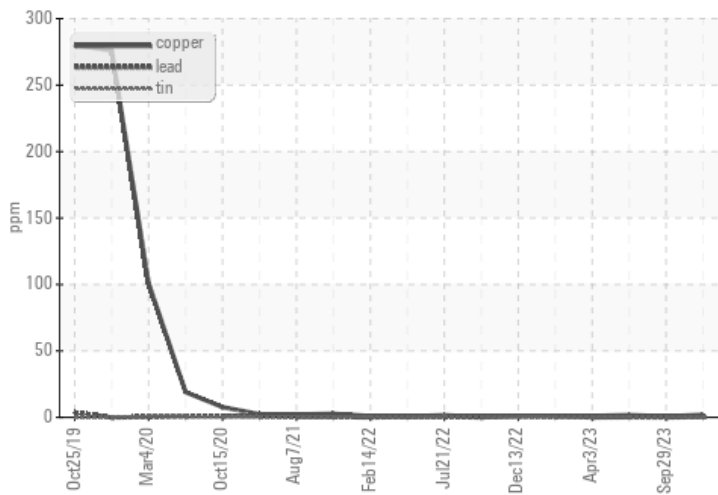


GRAPHS

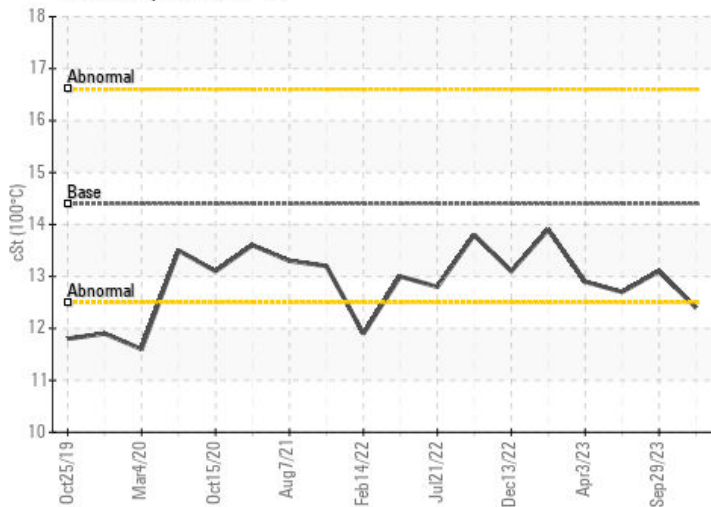
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

