

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH50 1216-115017 - Diesel Engine

Sample No: LH0263876

Oil Type: DIESEL ENGINE OIL SAE 5W40



SAMPLE INFORMATION

Sample Number	LH0263876	LH0243381	LHMC88840	LHMC160759
Sample Date	05 Aug 2023	03 Apr 2023	30 Dec 2022	13 Dec 2022
Machine Hours	7823	7172	6572	6572
Oil Hours	0	0	80	0
Oil Changed	Changed	Changed	Not Changd	Changed
Sample Status	NORMAL	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	12.7	12.9	13.9	13.1
Base Number (BN)	mg KOH/g	6.5	6.4	8.3	7.7
Oxidation (PA)	%	60	63	48	62



CONTAMINATION

Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	73	74	57	78
Sulfation (PA)	%	54	58	49	60
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	8	8	8	7
Sodium	ppm	2	2	2	2
Potassium	ppm	3	3	4	3

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.



WEAR METALS

Iron	ppm	6	7	3	16
Copper	ppm	2	1	1	1
Lead	ppm	<1	0	<1	<1
Tin	ppm	<1	0	<1	<1
Aluminum	ppm	0	0	1	3
Chromium	ppm	0	0	<1	<1
Molybdenum	ppm	14	4	4	4
Nickel	ppm	0	0	0	<1
Titanium	ppm	70	87	85	85
Silver	ppm	<1	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	<1	<1	1



ADDITIVES

Calcium	ppm	1385	1332	1469	1418
Magnesium	ppm	791	617	678	656
Zinc	ppm	1256	1150	1257	1212
Phosphorus	ppm	1003	967	1005	1011
Barium	ppm	0	2	0	0
Boron	ppm	50	98	142	114

Depot: ALTGRE

Unique No: 10603862

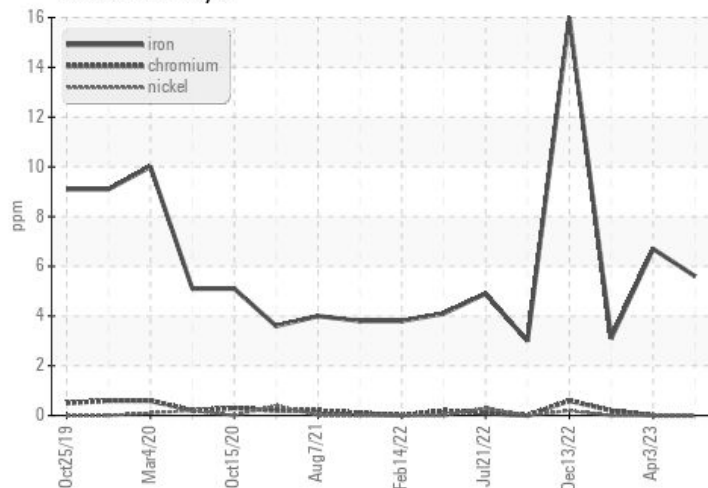
Signed: Wes Davis

Report Date: 15 Aug 2023

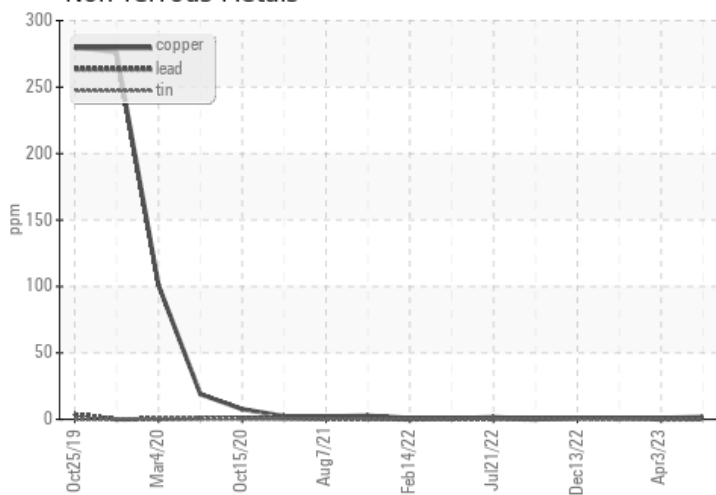


GRAPHS

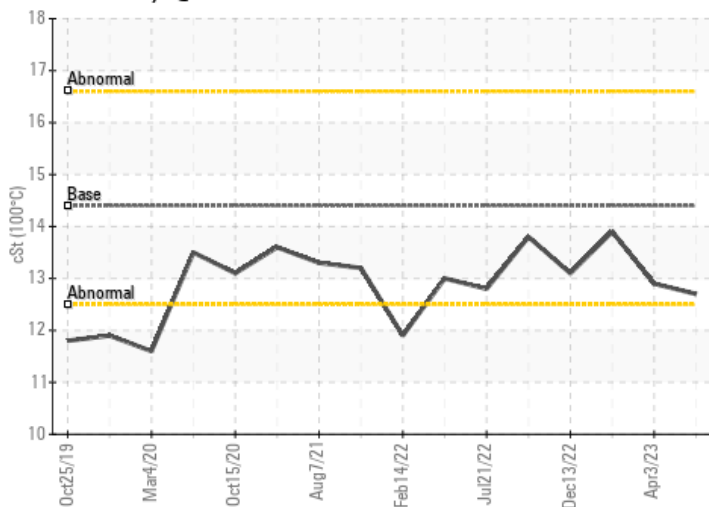
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

