

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH80C 1213-55343 - Diesel Engine

Sample No: LH0257911

Oil Type: LIEBHERR MOTOROIL 10W-40 LOW ASH



SAMPLE INFORMATION

Sample Number	LH0257911	LH0172049	LH0166937	LH0157474
Sample Date	20 Feb 2024	21 Oct 2020	23 Jun 2020	16 Jan 2020
Machine Hours	12758	8314	7897	0
Oil Hours	500	0	0	500
Oil Changed	N/A	Changed	Changed	Changed
Sample Status	ATTENTION	NORMAL	ABNORMAL	MARGINAL

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OIL CONDITION

Visc @ 100°C	cSt	11.2	12.5	12.4	12.0
Base Number (BN)	mg KOH/g	6.5	---	---	---
Oxidation (PA)	%	59	56	74	70



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.6	0.9	0.7
Nitration (PA)	%	73	87	107	87
Sulfation (PA)	%	55	62	73	59
Glycol	%	NEG	NEG	0.0	0.0
Fuel	%	1.6	<1.0	<1.0	<1.0
Silicon	ppm	6	7	10	9
Sodium	ppm	2	67	252	98
Potassium	ppm	1	2	23	10

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.



WEAR METALS

Iron	ppm	3	16	28	16
Copper	ppm	4	4	6	3
Lead	ppm	0	0	2	<1
Tin	ppm	<1	0	<1	<1
Aluminum	ppm	<1	9	17	7
Chromium	ppm	0	<1	<1	<1
Molybdenum	ppm	12	8	21	38
Nickel	ppm	0	<1	<1	<1
Titanium	ppm	0	1	<1	<1
Silver	ppm	0	0	0	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

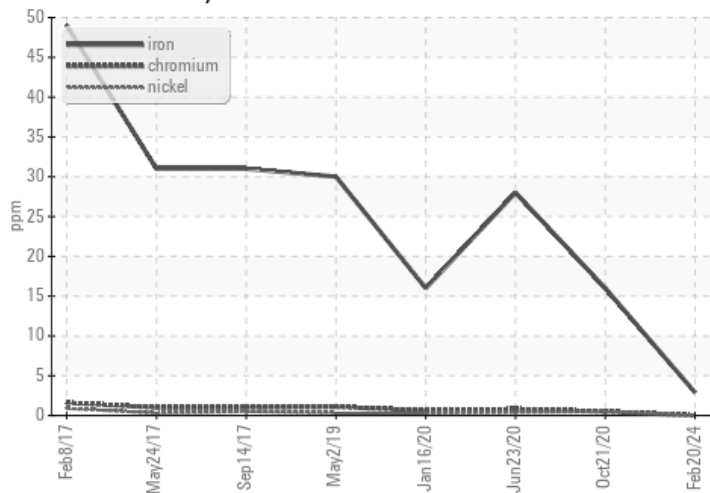
Calcium	ppm	1326	2258	2201	1680
Magnesium	ppm	601	95	266	491
Zinc	ppm	818	1005	1015	1076
Phosphorus	ppm	713	879	893	965
Barium	ppm	0	0	0	0
Boron	ppm	90	7	22	36

Depot: HEATHE
 Unique No: 10912752
 Signed: Doug Bogart
 Report Date: 10 Mar 2024

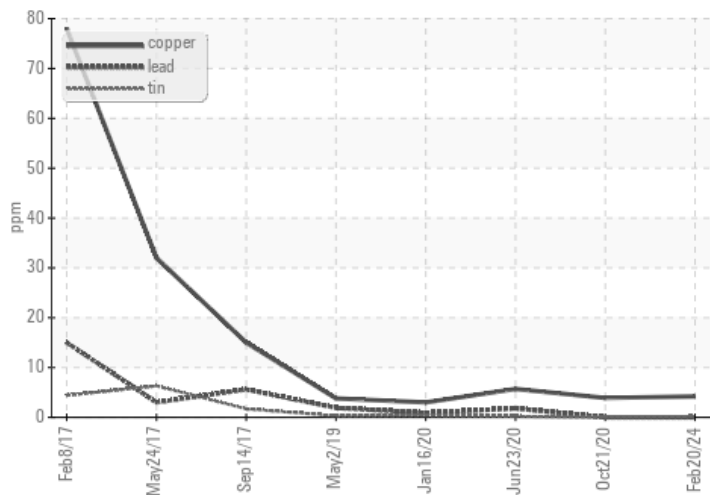


GRAPHS

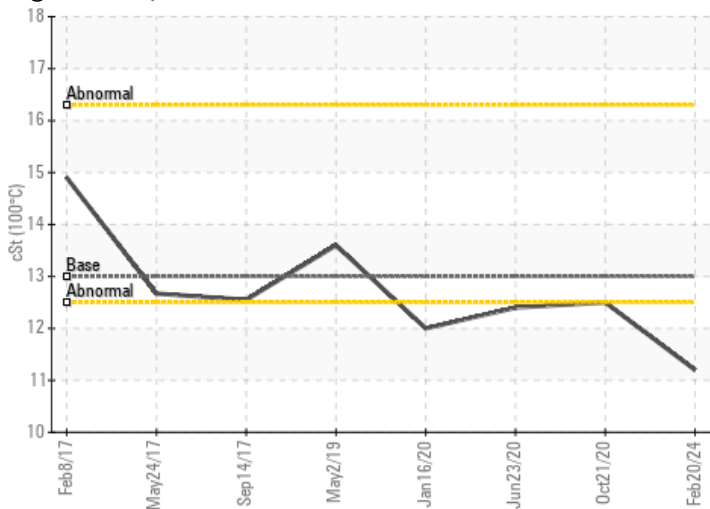
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

