

LIEBHERR

CONSTRUCTION EQUIPMENT



[REMAN] LIEBHERR A954B 015423-714 - Diesel Engine

Sample No: LH0258530

Oil Type: DIESEL ENGINE OIL SAE 5W40



Sample Information

Sample Number	LH0258530	LH06117615	LH0257973	LHMC67825
Sample Date	24 Apr 2024	19 Feb 2024	01 May 2023	30 Dec 2014
Machine Hours	31093	30986	1032	12202
Oil Hours	31093	124	0	250
Oil Changed	Changed	Not Changd	N/A	Changed
Sample Status	NORMAL	SEVERE	SEVERE	NORMAL

TUBE CITY IMS

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DARLINGTON, SC
US 29540

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Oil Condition

Visc @ 100°C	cSt	13.1	12.3	3.6	14.21
Base Number (BN)	mg KOH/g	5.2	13.7	11.5	---
Oxidation (PA)	%	65	66	41	56



Contamination

Water	%	NEG	0.103	NEG	NEG
Soot %	%	1.5	0.4	0.5	0.2
Nitration (PA)	%	92	85	76	50
Sulfation (PA)	%	64	57	39	47
Glycol	%	NEG	0.12	NEG	NEG
Fuel	%	<1.0	0.7	60.5	<1.0
Silicon	ppm	8	30	18	6
Sodium	ppm	2	526	52	16
Potassium	ppm	2	588	39	3



Wear Metals

Iron	ppm	12	67	45	16
Copper	ppm	2	155	33	5
Lead	ppm	0	80	0	1
Tin	ppm	<1	6	0	0
Aluminum	ppm	1	14	10	2
Chromium	ppm	<1	4	7	1
Molybdenum	ppm	48	117	27	42
Nickel	ppm	0	0	0	1
Titanium	ppm	<1	<1	0	<1
Silver	ppm	0	<1	0	0
Manganese	ppm	<1	3	2	<1
Vanadium	ppm	0	0	0	0



Additives

Calcium	ppm	1179	1240	704	1449
Magnesium	ppm	871	819	459	810
Zinc	ppm	1190	1136	594	1075
Phosphorus	ppm	1017	995	489	940
Barium	ppm	<1	12	0	0
Boron	ppm	19	17	25	45

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. No evidence of coolant present in the oil. 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: TUBDAR

Unique No: 11060681

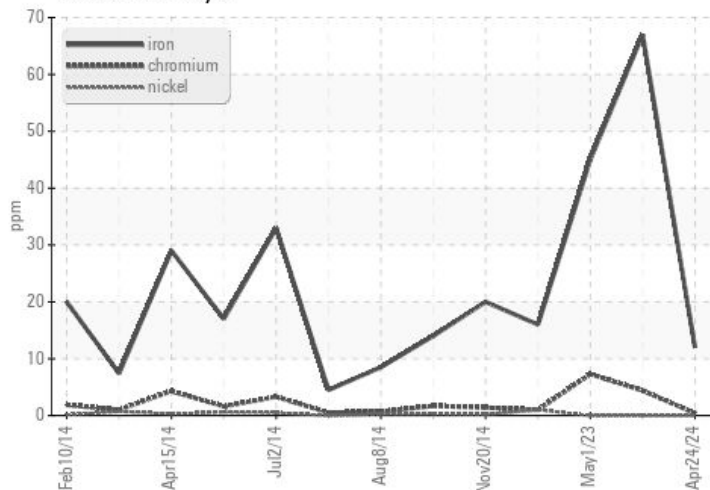
Signed: Jonathan Hester

Report Date: 06 Jun 2024

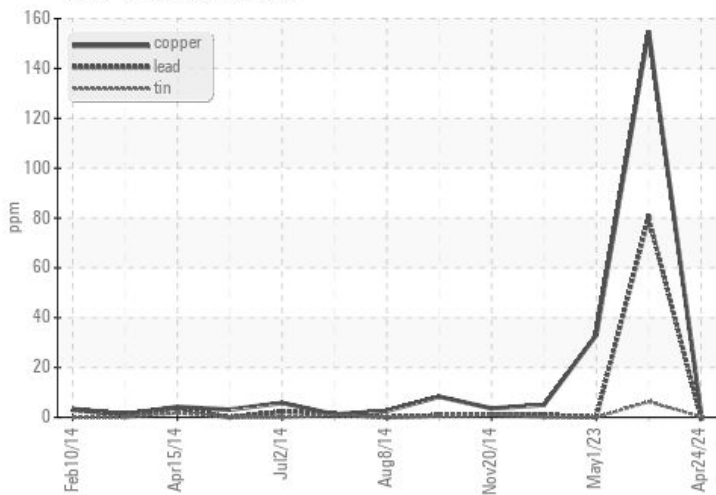


Graphs

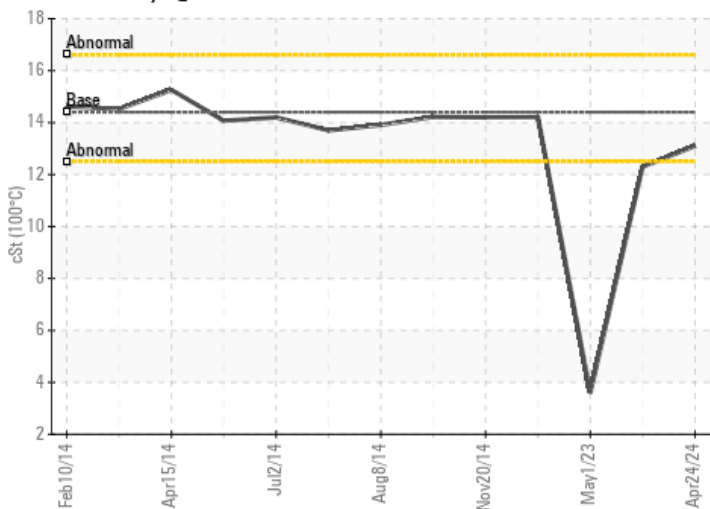
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

