

LIEBHERR

CONSTRUCTION EQUIPMENT



[(343446)] LIEBHERR LH60M 124381-1217 - Diesel Engine

Sample No: LH0289702

Oil Type: SAE 5W30



Sample Information

Sample Number	LH0289702	LH0285014	LH0265839	LH0261593
Sample Date	16 Apr 2024	12 Feb 2024	26 Jun 2023	03 May 2023
Machine Hours	13245	12500	10141	9520
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

RAM IRON AND METAL

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Oil Condition

Visc @ 100°C	cSt	13.1	13.6	13.2	13.7
Oxidation (PA)	%	89	76	80	68



Contamination

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0	0	0	0
Nitration (PA)	%	87	80	78	68
Sulfation (PA)	%	59	55	57	52
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	6	8	7	7
Sodium	ppm	2	1	2	1
Potassium	ppm	<1	2	<1	0

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. Viscosity of sample indicates oil is within SAE 40 range, advise investigate. The condition of the oil is acceptable for the time in service.



Wear Metals

Iron	ppm	5	4	3	2
Copper	ppm	1	<1	1	1
Lead	ppm	0	0	<1	<1
Tin	ppm	0	0	0	<1
Aluminum	ppm	2	2	1	1
Chromium	ppm	<1	<1	<1	0
Molybdenum	ppm	60	57	58	58
Nickel	ppm	0	<1	0	0
Titanium	ppm	0	0	0	<1
Silver	ppm	0	0	0	0
Manganese	ppm	0	0	<1	<1
Vanadium	ppm	0	0	0	0



Additives

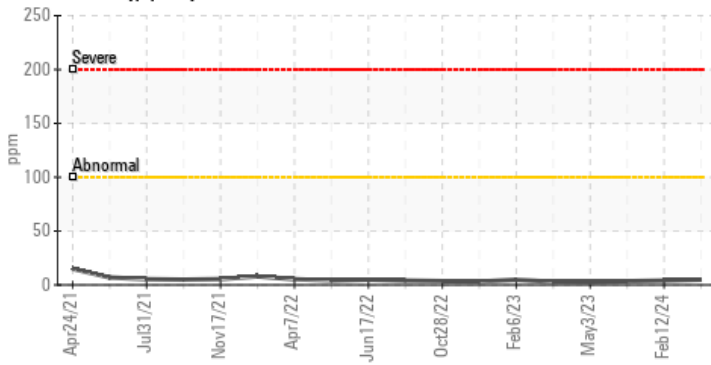
Calcium	ppm	1088	1109	1043	1040
Magnesium	ppm	982	941	978	955
Zinc	ppm	1204	1176	1194	1155
Phosphorus	ppm	989	993	1051	1079
Barium	ppm	0	0	0	0
Boron	ppm	4	2	2	<1

Depot: RAMTOR
Unique No: 5762642
Signed: Kevin Marson
Report Date: 17 Apr 2024

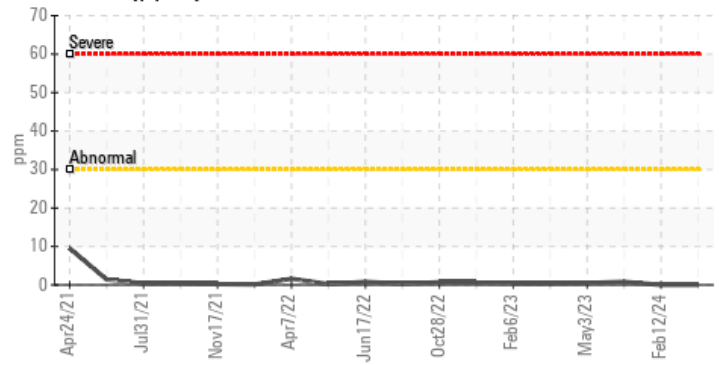


Graphs

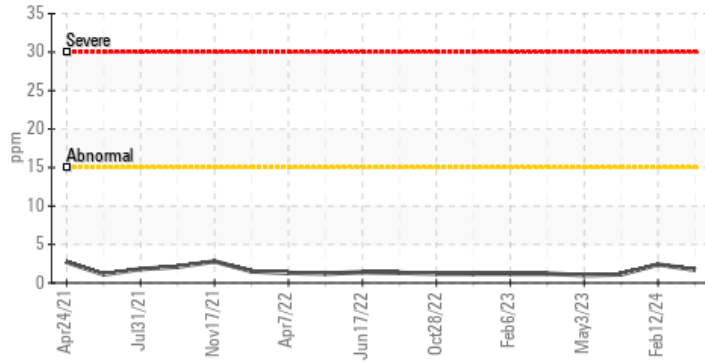
Iron (ppm)



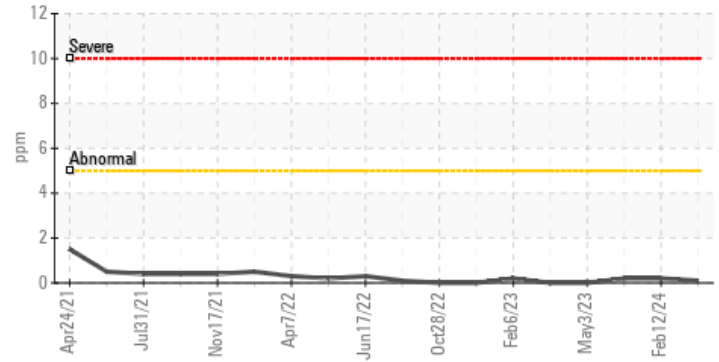
Lead (ppm)



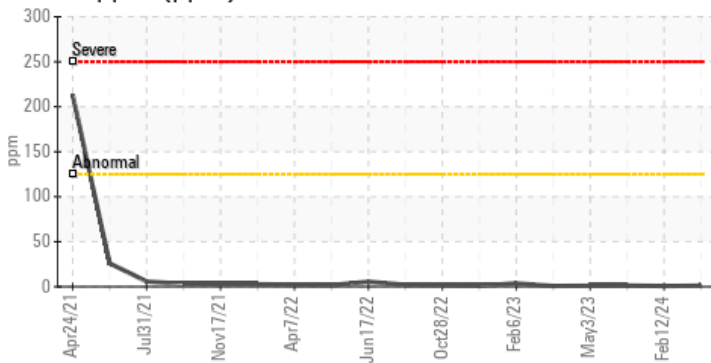
Aluminum (ppm)



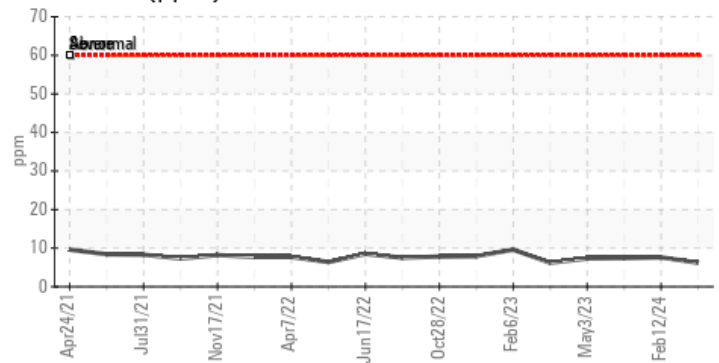
Chromium (ppm)



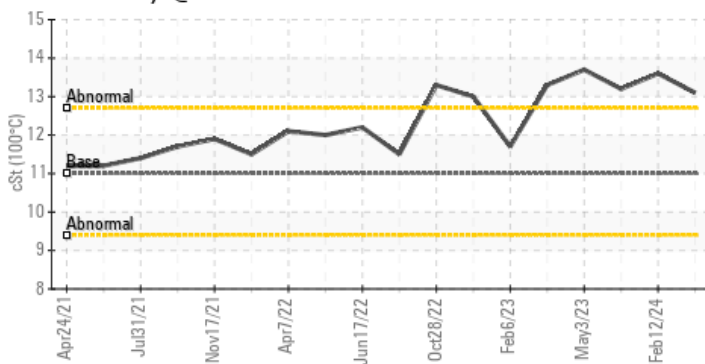
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Soot %

