

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH50 77243 - Diesel Engine

Sample No: LH0250235

Oil Type: PETRO CANADA DURON UHP 5W30



LIEBHERR CANADA
 10 LYNDS AVENUE
 MONCTON, NB
 CA E1H 3K2
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Sample Information

Sample Number	LH0250235	LH0161950	LH0119619	LH0101392
Sample Date	21 Mar 2023	03 Feb 2020	23 Jan 2019	30 Mar 2016
Machine Hours	30104	0	20189	7349
Oil Hours	0	0	0	0
Oil Changed	Not Chngd	Changed	Changed	Changed
Sample Status	ABNORMAL	NORMAL	ABNORMAL	NORMAL



Oil Condition

Visc @ 40°C	cSt	71.8	---	---	---
Visc @ 100°C	cSt	11.5	11.7	11.3	12.6
Viscosity Index (VI)	Scale	154	---	---	---
Oxidation (PA)	%	82	76	105	113



Contamination

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.4	0.1	0.3	1
Nitration (PA)	%	107	81	119	130
Sulfation (PA)	%	65	67	62	70
Glycol	%	NEG	NEG	0.0	0.0
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	11	6	8	10
Sodium	ppm	5	3	5	9
Potassium	ppm	<1	<1	17	15



Wear Metals

Iron	ppm	27	12	44	31
Copper	ppm	5	18	4	3
Lead	ppm	1	<1	<1	<1
Tin	ppm	<1	<1	<1	<1
Aluminum	ppm	9	3	12	4
Chromium	ppm	1	<1	<1	1
Molybdenum	ppm	61	61	3	1
Nickel	ppm	<1	<1	<1	<1
Titanium	ppm	<1	<1	<1	<1
Silver	ppm	0	<1	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0



Additives

Calcium	ppm	902	860	2262	2545
Magnesium	ppm	1171	1151	112	87
Zinc	ppm	1279	1274	746	837
Phosphorus	ppm	1149	1078	671	734
Barium	ppm	0	<1	<1	<1
Boron	ppm	20	41	3	6

Diagnosis

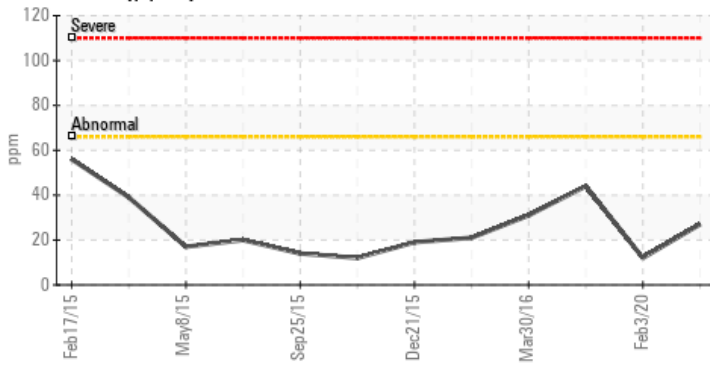
We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. Aluminum ppm levels are abnormal. Piston wear is indicated. There is no indication of any contamination in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Depot: LIEMON
 Unique No: 5552472
 Signed: Kevin Marson
 Report Date: 27 Mar 2023

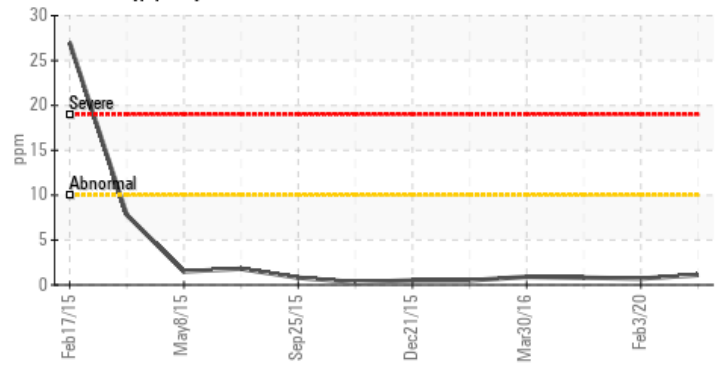


Graphs

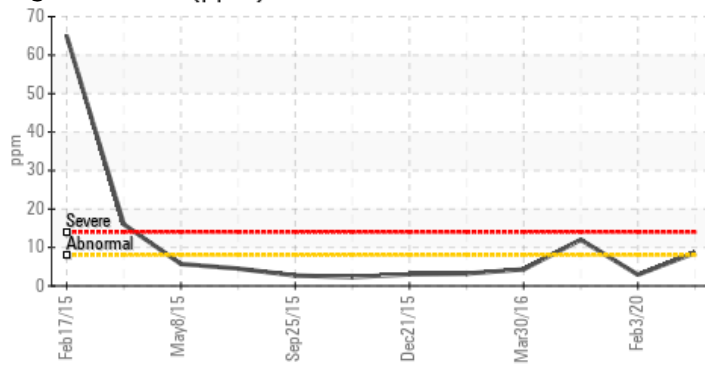
Iron (ppm)



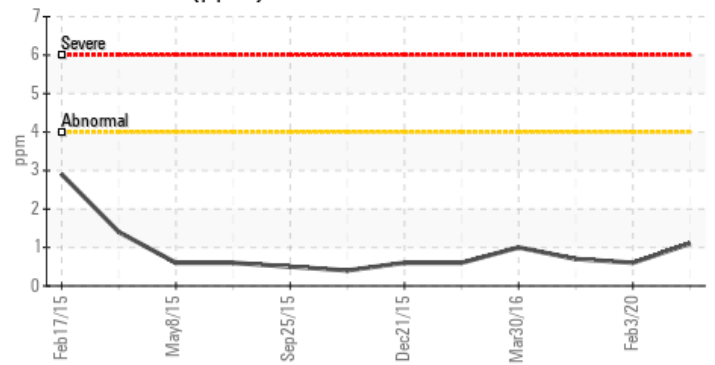
Lead (ppm)



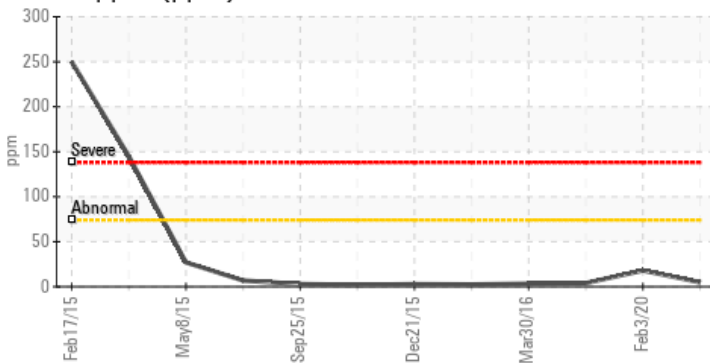
Aluminum (ppm)



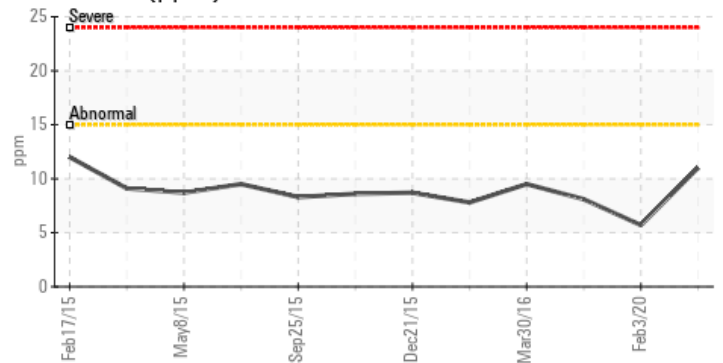
Chromium (ppm)



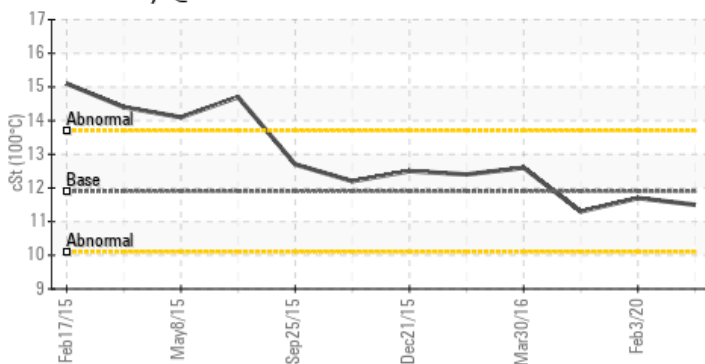
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Soot %

