CONSTRUCTION EQUIPMENT

LIEBHERR LH50M 083859-1203 - Diesel Engine

Sample No: LH0278958

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Oil Type: PETRO CANADA 10W30

SAMPLE INFORMATION

Sample Number	LH0278958	LH0251390	LH0247524	LH0234703		
Sample Date	21 Jan 2024	18 Jan 2023	10 Nov 2022	21 Sep 2022		
Machine Hours	12230	10073	9475	8941		
Oil Hours	0	0	0	0		
Oil Changed	Changed	Changed	Changed	Changed		
Sample Status	NORMAL	ABNORMAL	NORMAL	NORMAL		
Visc@100°C cSt	0 12.2	0 13.4	14.3	0 14.4		
Oxidation (PA) %	95	92	76	82		

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0 1.9	2.7	0 1.9	2.8
Nitration (PA)	%	104	119	96	113
Sulfation (PA)	%	73	81	69	77
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	09	0 10	07	8
Sodium	ppm	0 5	○ 5	3	6
Potassium	ppm	0 13	○ <1	0	3

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Iron	ppm	3 4	38	23	◯ 35
Copper	ppm	0 39	◯ 33	0 4	0 11
Lead	ppm	02	6	0 1	3
Tin	ppm	0 2	2	◯ <1	01
Aluminum	ppm	9	5	02	03
Chromium	ppm	01	01	◯ <1	01
Molybdenum	ppm	0 43	58	○ 55	0 60
Nickel	ppm	○ <1	○ <1	0	0
Titanium	ppm	0	<1	<1	<1
Silver	ppm	0 ()	0	0	0
Manganese	ppm	○ <1	◯ <1	◯ <1	○ <1
Vanadium	ppm	0	0	0	0

ADDITIVES					
Calcium	ppm	0 1745	987	0 1197	0 1089
Magnesium	ppm	546	0 1029	876	977
Zinc	ppm	901	0 1175	0 1143	0 1161
Phosphorus	ppm	0 767	963	0 1009	987
Barium	ppm	02	2	0	0
Boron	ppm	0 14	0 11	6	02



RAMTOR 5711329 Wes Davis 23 Jan 2024



RAM IRON AND METAL

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Diagnosis

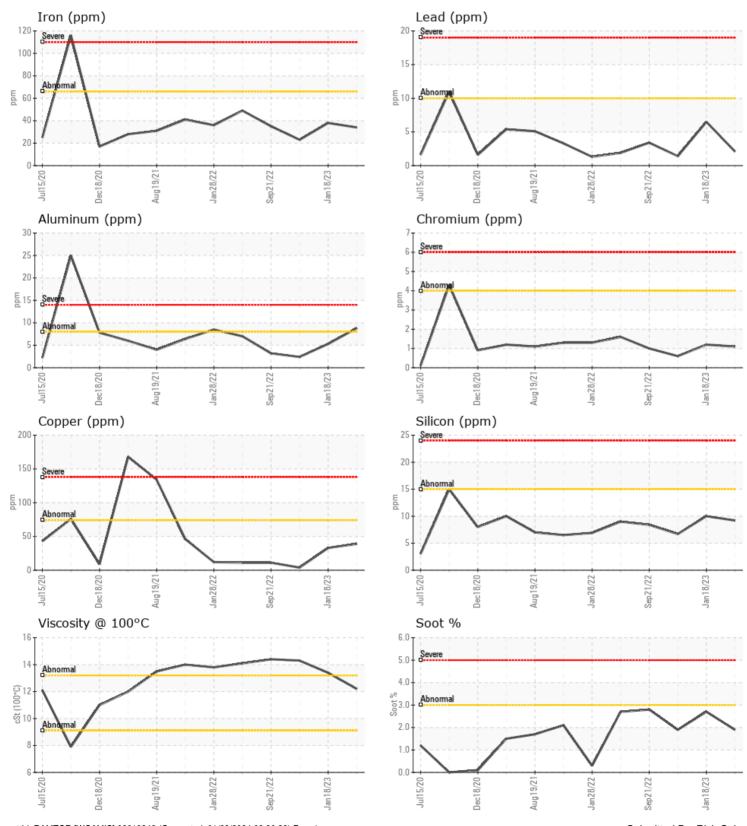
Resample at the next service interval to monitor.All component wear rates are normal. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.





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