CONSTRUCTION EQUIPMENT

LIEBHERR LH50 111551-1216 - Rear Right Wheel Hub

Sample No: LHMC163244

Oil Type: HARTLAND 80W90 LS

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U SAM	PLE INFOR	RMATION			
Sample Number		LHMC163244	LH0156605	LHMC163219	LHMC163198
Sample Date		29 Aug 2023	25 Apr 2023	26 Jan 2023	03 Dec 2021
Machine Hours		17705	15697	14047	10215
Oil Hours		0	0	0	1882
Oil Changed		Changed	Changed	Changed	Changed
Sample Status		NORMAL	NORMAL	NORMAL	NORMAL
A					
OIL	CONDITION	V			
Visc @ 40°C	cSt	148	O 137	O 177	O 182
-4					
CON	TAMINAT	ION			
Silicon	ppm	3	O 5	O 11	O 11
Sodium	ppm	6	02	0 2	0 0
Potassium	ppm	O <1	0.1	0 0	0 <1
.44.	le le	O 11		0 1	0
◎ WEA	R METALS	•			
Iron	ppm	82	8 3	O 137	O 116
Copper	ppm	49	O 26	68	81
Lead	ppm	0 <1	O 0	3	O <1
Tin	ppm	0	O 0	O 0	0
Aluminum	ppm	2	O 1	O 2	02
Chromium	ppm	0	O 0	O 1	O 1
Molybdenum	ppm	2	3	<1	0
Nickel	ppm	0	O 0	O <1	O <1
Titanium	ppm	<1	<1	<1	<1
Silver	ppm	0	0	0	0
Manganese	ppm	3	O 2	3	3
Vanadium	ppm	<1	0	0	0
ADD	ITIVES				
Calcium	ppm	93	O 75	12	8
Magnesium	ppm	5	O 13	2	0
Zinc	ppm	31	O 32	43	28
Phosphorus	ppm	1342	994	1611	1679
Phosphorus Barium	ppm ppm	1342 0	○ 994○ 0	1611 2	1679



BOISE WHITE PAPER

3RD AVE AND HWY 11, 400 2ND ST INTERNATIONAL FALLS, MN US 56649

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Diagnosis

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

Depot: **BOIINT Unique No:** 10633753 Signed: Doug Bogart Report Date: 08 Sep 2023

Contact/Location: GARY MANN - BOIINT

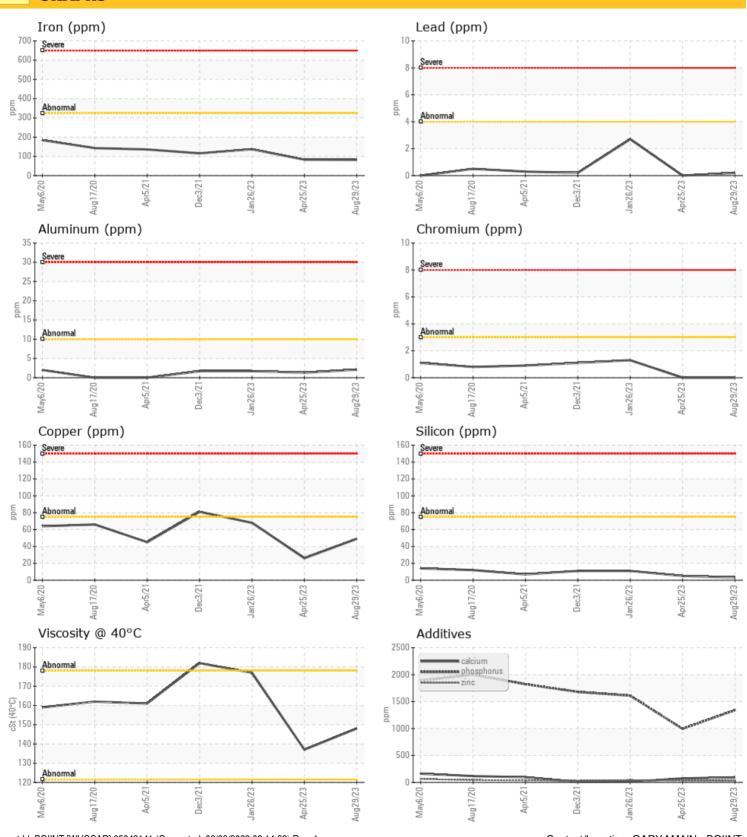
LIEBHERR

CONSTRUCTION EQUIPMENT





GRAPHS



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Contact/Location: GARY MANN - BOIINT