

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH50 11551-1216 - Front Differential

Sample No: LHMC163211

Oil Type: HARTLAND 80W90 LS



SAMPLE INFORMATION

Sample Number	LHMC163211	LH0156601	LHMC162583	LHMC163234
Sample Date	29 Aug 2023	25 Apr 2023	26 Jan 2023	06 May 2020
Machine Hours	17705	15697	14047	4977
Oil Hours	0	0	0	1700
Oil Changed	Changed	Changed	Changed	N/A
Sample Status	NORMAL	NORMAL	ABNORMAL	NORMAL

BOISE WHITE PAPER

3RD AVE AND HWY 11, 400 2ND ST
INTERNATIONAL FALLS, MN
US 56649
Contact: GARY MANN
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T:
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OIL CONDITION

Visc @ 40°C	cSt	149	162	184	183
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CONTAMINATION

Silicon	ppm	1	<1	12	10
Sodium	ppm	2	<1	3	2
Potassium	ppm	0	2	0	<1



WEAR METALS

Iron	ppm	26	14	179	87
Copper	ppm	8	4	91	61
Lead	ppm	0	0	3	0
Tin	ppm	0	0	0	0
Aluminum	ppm	<1	<1	1	1
Chromium	ppm	0	0	2	1
Molybdenum	ppm	2	2	<1	<1
Nickel	ppm	0	0	2	1
Titanium	ppm	<1	0	0	0
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	5	3
Vanadium	ppm	<1	0	0	0



ADDITIVES

Calcium	ppm	36	27	19	22
Magnesium	ppm	5	7	2	2
Zinc	ppm	9	7	60	46
Phosphorus	ppm	1259	1302	1152	1039
Barium	ppm	0	0	393	349
Boron	ppm	2	6	0	2

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: 10633749
Signed: Doug Bogart
Report Date: 08 Sep 2023



GRAPHS

