

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR R938 050294-1650 - Left Final Drive

Sample No: LH0172354

Oil Type: GEAR OIL SAE 75W90



SAMPLE INFORMATION

Sample Number	LH0172354	LH0172345	LH0257073	LH0172318
Sample Date	03 Jan 2024	11 Jul 2023	21 Mar 2023	14 Oct 2021
Machine Hours	4951	4478	4098	2273
Oil Hours	0	0	0	0
Oil Changed	Changed	Not Changd	Changed	Changed
Sample Status	ABNORMAL	ABNORMAL	SEVERE	NORMAL

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OIL CONDITION

Visc @ 40°C	cSt	99.1	102	91.5	174
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CONTAMINATION

Water	%	0.266	NEG	NEG	NEG
Silicon	ppm	727	250	783	30
Sodium	ppm	30	11	37	3
Potassium	ppm	64	17	53	4



WEAR METALS

PQ		189	18	160	---
Iron	ppm	1968	1164	2208	380
Copper	ppm	1	<1	2	<1
Lead	ppm	<1	0	1	0
Tin	ppm	0	0	0	0
Aluminum	ppm	162	46	141	8
Chromium	ppm	28	15	24	9
Molybdenum	ppm	2	1	2	<1
Nickel	ppm	2	<1	2	<1
Titanium	ppm	9	3	9	<1
Silver	ppm	0	0	0	<1
Manganese	ppm	16	9	15	9
Vanadium	ppm	0	<1	<1	0



ADDITIVES

Calcium	ppm	632	221	574	73
Magnesium	ppm	223	88	211	22
Zinc	ppm	15	10	23	24
Phosphorus	ppm	1200	1279	1236	1135
Barium	ppm	0	<1	0	13
Boron	ppm	255	243	103	2

Diagnosis

We advise that you check for the source of water entry. We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Chromium and iron ppm levels are abnormal. Aluminum ppm levels are noted. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. There is a moderate concentration of water present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. High amount of ingressed dirt has caused abrasive wear to the component. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Depot: MOOPAL
 Unique No: 5709375
 Signed: Kevin Marson
 Report Date: 15 Jan 2024



GRAPHS

