

LIEBHERR

CONSTRUCTION EQUIPMENT



[[CAR BARRS]] LIEBHERR R946 045303-1491 - Left Final Drive

Sample No: LHMC100092

Oil Type: LIEBHERR GEAR BASIC 90 LS



SAMPLE INFORMATION

Sample Number	LHMC100092	LH0267610	---	---
Sample Date	17 Oct 2023	21 Sep 2023	---	---
Machine Hours	3575	3480	---	---
Oil Hours	75	3480	---	---
Oil Changed	Changed	Changed	---	---
Sample Status	SEVERE	ABNORMAL	---	---

LIEBHERR EQUIPMENT SOURCE

4100 CHESTNUT AVENUE
NEWPORT NEWS, VA
US 23607

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OIL CONDITION

Visc @ 40°C	cSt	● 223	● 288	---	---
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CONTAMINATION

Silicon	ppm	● 742	● 3067	---	---
Sodium	ppm	● 3	● 23	---	---
Potassium	ppm	● 23	● 82	---	---



WEAR METALS

Iron	ppm	● 1995	● 7139	---	---
Copper	ppm	● 4	● 4	---	---
Lead	ppm	● <1	● 2	---	---
Tin	ppm	● 0	● 1	---	---
Aluminum	ppm	● 76	● 302	---	---
Chromium	ppm	● 21	● 91	---	---
Molybdenum	ppm	● 3	● 8	---	---
Nickel	ppm	● 10	● 32	---	---
Titanium	ppm	● 12	● 49	---	---
Silver	ppm	● 0	● 0	---	---
Manganese	ppm	● 14	● 57	---	---
Vanadium	ppm	● <1	● 3	---	---



ADDITIVES

Calcium	ppm	● 12	● 49	---	---
Magnesium	ppm	● 4	● 23	---	---
Zinc	ppm	● 3	● 9	---	---
Phosphorus	ppm	● 2303	● 2443	---	---
Barium	ppm	● 10	● 2	---	---
Boron	ppm	● 2	● 3	---	---

Diagnosis

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 advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. Gear wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The oil is no longer serviceable due to the presence of contaminants.

Depot: LIEBHERRUS
Unique No: 10710230
Signed: Sean Felton
Report Date: 25 Oct 2023



GRAPHS

