

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR R938 1650-50726 - Right Final Drive

Sample No: LH0244726

Oil Type: GEAR OIL SAE 80W90



**DIEHL AND NUEMAIER**  
 5466 NORWAY GROVE SCHOOL RD  
 DE FOREST, WI  
 US 53532  
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#### SAMPLE INFORMATION

Sample Number	LH0244726	LH0236517	---	---
Sample Date	13 Oct 2023	01 Aug 2022	---	---
Machine Hours	973	0	---	---
Oil Hours	0	516	---	---
Oil Changed	Not Chngd	Changed	---	---
Sample Status	SEVERE	NORMAL	---	---



#### OIL CONDITION

Visc @ 40°C	cSt	134	199	---	---
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#### CONTAMINATION

Silicon	ppm	296	65	---	---
Sodium	ppm	8	6	---	---
Potassium	ppm	20	8	---	---



#### WEAR METALS

Iron	ppm	535	169	---	---
Copper	ppm	1	<1	---	---
Lead	ppm	1	<1	---	---
Tin	ppm	0	0	---	---
Aluminum	ppm	45	14	---	---
Chromium	ppm	8	3	---	---
Molybdenum	ppm	5	<1	---	---
Nickel	ppm	3	<1	---	---
Titanium	ppm	4	1	---	---
Silver	ppm	0	<1	---	---
Manganese	ppm	6	3	---	---
Vanadium	ppm	0	0	---	---



#### ADDITIVES

Calcium	ppm	374	102	---	---
Magnesium	ppm	178	43	---	---
Zinc	ppm	55	26	---	---
Phosphorus	ppm	806	1260	---	---
Barium	ppm	0	6	---	---
Boron	ppm	17	5	---	---

#### Diagnosis

We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. 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: DIEDEF  
 Unique No: 10701551  
 Signed: Doug Bogart  
 Report Date: 20 Oct 2023



### GRAPHS

