

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### [[YORKTOWN MATERIALS]] LIEBHERR R946 045303-1491 - Right Fi

Sample No: LH0267611

Oil Type: LIEBHERR GEAR BASIC 90 LS



#### SAMPLE INFORMATION

Sample Number	LH0267611	---	---	---
Sample Date	21 Sep 2023	---	---	---
Machine Hours	3480	---	---	---
Oil Hours	3480	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	SEVERE	---	---	---

#### LIEBHERR EQUIPMENT SOURCE

4100 CHESTNUT AVENUE  
NEWPORT NEWS, VA  
US 23607

Contact: LUKE APPLEBY  
Lucas.Appleby@liebherr.com  
T:  
F: (757)298-8700



#### OIL CONDITION

Visc @ 40°C	cSt	322	---	---	---
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#### CONTAMINATION

Silicon	ppm	7909	---	---	---
Sodium	ppm	62	---	---	---
Potassium	ppm	222	---	---	---



#### WEAR METALS

Iron	ppm	15175	---	---	---
Copper	ppm	10	---	---	---
Lead	ppm	4	---	---	---
Tin	ppm	2	---	---	---
Aluminum	ppm	815	---	---	---
Chromium	ppm	120	---	---	---
Molybdenum	ppm	23	---	---	---
Nickel	ppm	77	---	---	---
Titanium	ppm	126	---	---	---
Silver	ppm	<1	---	---	---
Manganese	ppm	137	---	---	---
Vanadium	ppm	7	---	---	---



#### ADDITIVES

Calcium	ppm	170	---	---	---
Magnesium	ppm	60	---	---	---
Zinc	ppm	8	---	---	---
Phosphorus	ppm	2302	---	---	---
Barium	ppm	7	---	---	---
Boron	ppm	6	---	---	---

#### Diagnosis

We advise that you check all areas where dirt can enter the system. Oil and filter 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 viscosity is higher than normal. The oil is no longer serviceable due to the presence of contaminants.

Depot: LIEBHERRUS  
Unique No: 10684317  
Signed: Angela Borella  
Report Date: 10 Oct 2023

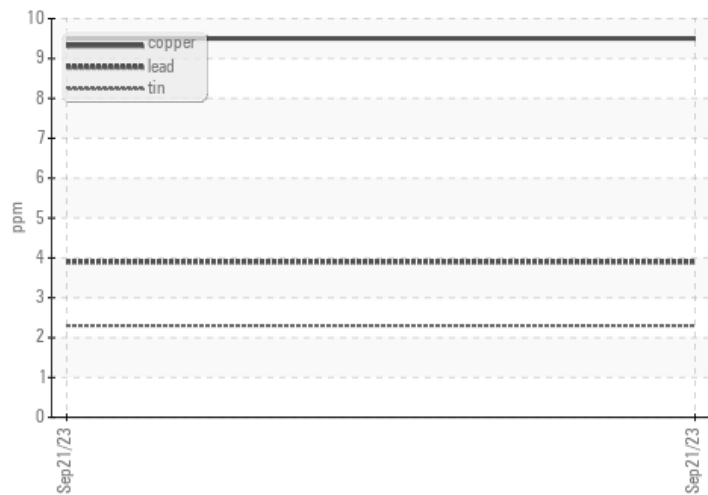


### GRAPHS

#### ● Ferrous Alloys



#### Non-ferrous Metals



#### ● Viscosity @ 40°C

