

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### GRADALL XL4100 4100000556 - Diesel Engine

Sample No: LH0267665

Oil Type: NOT GIVEN



#### SAMPLE INFORMATION

Sample Number	LH0267665	---	---	---
Sample Date	13 Nov 2023	---	---	---
Machine Hours	133711	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Chngd	---	---	---
Sample Status	SEVERE	---	---	---

#### FINKBINER EQUIPMENT CO.

15 W 400 N FRONTAGE RD  
 BURR RIDGE, IL  
 US 60527  
 Contact: GERARDO SANCHEZ  
 gsanchez@amstate.com  
 T: (630)450-2316  
 F: (630)654-3792



#### OIL CONDITION

Visc @ 100°C	cSt	● 9.1	---	---	---
Base Number (BN)	mg KOH/g	● 7.9	---	---	---
Oxidation (PA)	%	58	---	---	---

#### Diagnosis

We advise that you check the fuel injection 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. Please specify the brand, type, and viscosity of the oil on your next sample. All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.



#### CONTAMINATION

Water	%	NEG	---	---	---
Soot %	%	● 0.1	---	---	---
Nitration (PA)	%	41	---	---	---
Sulfation (PA)	%	48	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	● 19.5	---	---	---
Silicon	ppm	● 8	---	---	---
Sodium	ppm	● 3	---	---	---
Potassium	ppm	● 14	---	---	---



#### WEAR METALS

Iron	ppm	● 25	---	---	---
Copper	ppm	● 4	---	---	---
Lead	ppm	● 6	---	---	---
Tin	ppm	● 8	---	---	---
Aluminum	ppm	● 12	---	---	---
Chromium	ppm	● 2	---	---	---
Molybdenum	ppm	● 41	---	---	---
Nickel	ppm	● <1	---	---	---
Titanium	ppm	0	---	---	---
Silver	ppm	● 0	---	---	---
Manganese	ppm	0	---	---	---
Vanadium	ppm	<1	---	---	---



#### ADDITIVES

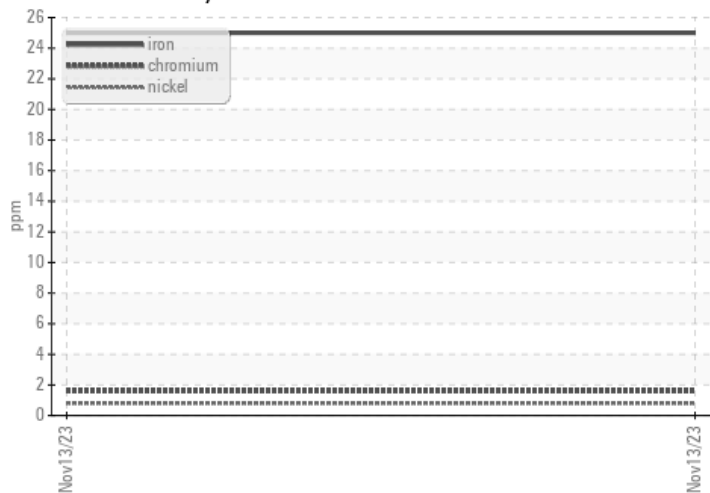
Calcium	ppm	688	---	---	---
Magnesium	ppm	● 817	---	---	---
Zinc	ppm	● 953	---	---	---
Phosphorus	ppm	762	---	---	---
Barium	ppm	● 0	---	---	---
Boron	ppm	● 8	---	---	---

Depot: LEC0033  
 Unique No: 10776851  
 Signed: Wes Davis  
 Report Date: 14 Dec 2023

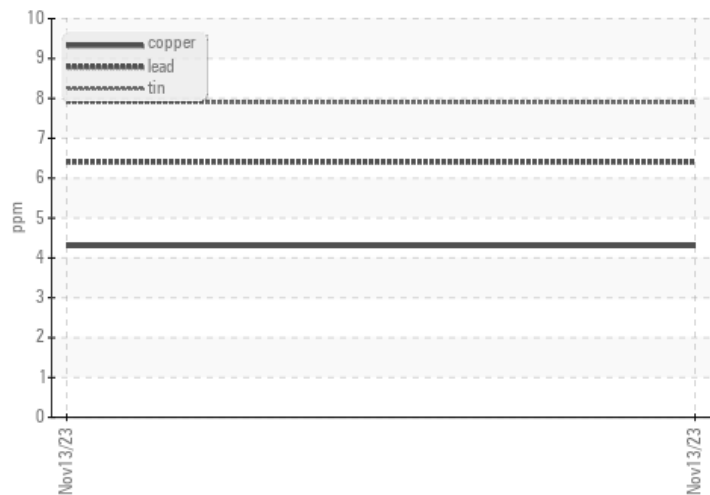


### GRAPHS

#### Ferrous Alloys



#### Non-ferrous Metals



#### ● Viscosity @ 100°C



#### Base Number

