

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### 2010.04.6319 - Diesel Engine

Sample No: LH0276194  
 Oil Type: DIESEL ENGINE OIL SAE 10W30



#### SAMPLE INFORMATION

Sample Number	LH0276194	LH0276193	---	---
Sample Date	20 Mar 2024	19 Mar 2024	---	---
Machine Hours	5	1	---	---
Oil Hours	0	0	---	---
Oil Changed	N/A	N/A	---	---
Sample Status	SEVERE	SEVERE	---	---

**LIEBHERR CANADA LTD. - REMAN**  
 1015 SUTTON DRIVE  
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#### OIL CONDITION

Visc @ 100°C	cSt	14.0	15.8	---	---
Oxidation (PA)	%	53	99	---	---



#### CONTAMINATION

Water	%	NEG	NEG	---	---
Soot %	%	0	0.7	---	---
Nitration (PA)	%	43	74	---	---
Sulfation (PA)	%	49	45	---	---
Glycol	%	0.192	>.70	---	---
Fuel	%	<1.0	<1.0	---	---
Silicon	ppm	10	20	---	---
Sodium	ppm	28	43	---	---
Potassium	ppm	106	169	---	---



#### WEAR METALS

Iron	ppm	11	74	---	---
Copper	ppm	4	5	---	---
Lead	ppm	2	1	---	---
Tin	ppm	0	0	---	---
Aluminum	ppm	<1	1	---	---
Chromium	ppm	0	<1	---	---
Molybdenum	ppm	16	17	---	---
Nickel	ppm	0	0	---	---
Titanium	ppm	51	51	---	---
Silver	ppm	0	0	---	---
Manganese	ppm	0	2	---	---
Vanadium	ppm	0	0	---	---



#### ADDITIVES

Calcium	ppm	1245	1357	---	---
Magnesium	ppm	310	402	---	---
Zinc	ppm	1086	1089	---	---
Phosphorus	ppm	768	774	---	---
Barium	ppm	54	64	---	---
Boron	ppm	22	46	---	---

#### Diagnosis

We advise that you check for the source of the coolant leak. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. We recommend an early resample to monitor this condition. Metal levels are typical for a new component breaking in. Test for glycol is positive. There is a high concentration of glycol present in the oil. There is a moderate concentration of water present in the oil. Free water present. Viscosity of sample indicates oil is within SAE 40 range, advise investigate. The oil is no longer serviceable due to the presence of contaminants.

Depot: REMAN  
 Unique No: 5748411  
 Signed: Kevin Marson  
 Report Date: 21 Mar 2024



### GRAPHS

