

LIEBHERR

CONSTRUCTION EQUIPMENT



FAR 100090 - Diesel Engine

Sample No: LH0277525

Oil Type: DIESEL ENGINE OIL SAE 40



SAMPLE INFORMATION

Sample Number	LH0277525	---	---	---
Sample Date	14 Nov 2023	---	---	---
Machine Hours	0	---	---	---
Oil Hours	0	---	---	---
Oil Changed	N/A	---	---	---
Sample Status	SEVERE	---	---	---

LIEBHERR CANADA LTD.

1015 SUTTON DRIVE
BURLINGTON, ON
CA L7L 5Z8

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OIL CONDITION

Visc @ 100°C	cSt	32.6	---	---	---
Oxidation (PA)	%	181	---	---	---



CONTAMINATION

Soot %	%	0.4	---	---	---
Nitration (PA)	%	387	---	---	---
Sulfation (PA)	%	0	---	---	---
Glycol	%	>.70	---	---	---
Fuel	%	<1.0	---	---	---
Silicon	ppm	42	---	---	---
Sodium	ppm	2083	---	---	---
Potassium	ppm	302	---	---	---



WEAR METALS

Iron	ppm	43	---	---	---
Copper	ppm	179	---	---	---
Lead	ppm	9	---	---	---
Tin	ppm	1	---	---	---
Aluminum	ppm	8	---	---	---
Chromium	ppm	<1	---	---	---
Molybdenum	ppm	251	---	---	---
Nickel	ppm	<1	---	---	---
Titanium	ppm	0	---	---	---
Silver	ppm	<1	---	---	---
Manganese	ppm	3	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	966	---	---	---
Magnesium	ppm	635	---	---	---
Zinc	ppm	752	---	---	---
Phosphorus	ppm	685	---	---	---
Barium	ppm	3	---	---	---
Boron	ppm	566	---	---	---

Diagnosis

We advise that you check the engine tuning and timing. 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. Please specify the component make and model with your next sample. All component wear rates are normal. There is an abnormal level of nitration indicated. 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. The oil is no longer serviceable due to the presence of contaminants.

Depot: LIEMIS
Unique No: 5681570
Signed: Kevin Marson
Report Date: 16 Nov 2023



GRAPHS

