

LIEBHERR

CONSTRUCTION EQUIPMENT



20159 - Diesel Engine

Sample No: LH0284904

Oil Type: {unknown}



SAMPLE INFORMATION

Sample Number	LH0284904	---	---	---
Sample Date	08 Feb 2024	---	---	---
Machine Hours	8331	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Changd	---	---	---
Sample Status	SEVERE	---	---	---

LIEBHERR CANADA LTD.
 1015 SUTTON DRIVE
 BURLINGTON, ON
 CA L7L 5Z8
 Contact: Joseph Rodgers
 joseph.rodgers@liebherr.com
 T:
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OIL CONDITION

Visc @ 100°C	cSt	9.7	---	---	---
Oxidation (PA)	%	60	---	---	---



CONTAMINATION

Water	%	NEG	---	---	---
Soot %	%	0.3	---	---	---
Nitration (PA)	%	70	---	---	---
Sulfation (PA)	%	53	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	12.7	---	---	---
Silicon	ppm	3	---	---	---
Sodium	ppm	2	---	---	---
Potassium	ppm	<1	---	---	---

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. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.



WEAR METALS

Iron	ppm	14	---	---	---
Copper	ppm	1	---	---	---
Lead	ppm	<1	---	---	---
Tin	ppm	0	---	---	---
Aluminum	ppm	5	---	---	---
Chromium	ppm	<1	---	---	---
Molybdenum	ppm	51	---	---	---
Nickel	ppm	<1	---	---	---
Titanium	ppm	0	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	0	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	1342	---	---	---
Magnesium	ppm	245	---	---	---
Zinc	ppm	898	---	---	---
Phosphorus	ppm	780	---	---	---
Barium	ppm	0	---	---	---
Boron	ppm	81	---	---	---

Depot: LIEMIS
Unique No: 5723685
Signed: Wes Davis
Report Date: 13 Feb 2024



GRAPHS

