

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH50M 094197-1216 - Diesel Engine

Sample No: LH0284151

Oil Type: PETRO CANADA 10W40



SAMPLE INFORMATION

Sample Number	LH0284151	LH0279118	LH0261135	LH0260825
Sample Date	18 Mar 2024	05 Feb 2024	29 Dec 2023	31 May 2023
Machine Hours	25297	24766	24211	22824
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	ABNORMAL	NORMAL	NORMAL

INDUSTRIES GDS INC.

207 ROUTE 295
VILLE-DEGELIS, QC
CA G5T 1R1
Contact: Martin Deschenes
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OIL CONDITION

Visc @ 100°C	cSt	11.3	11.7	13.6	13.7
Oxidation (PA)	%	74	76	58	61



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0	0	0	0
Nitration (PA)	%	74	77	53	66
Sulfation (PA)	%	55	55	50	52
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	1	1.1	<1.0	<1.0
Silicon	ppm	5	6	6	6
Sodium	ppm	4	5	2	<1
Potassium	ppm	0	2	2	<1



WEAR METALS

Iron	ppm	4	5	5	2
Copper	ppm	189	82	4	<1
Lead	ppm	4	2	<1	0
Tin	ppm	0	0	0	0
Aluminum	ppm	0	1	1	1
Chromium	ppm	0	0	0	0
Molybdenum	ppm	53	58	55	59
Nickel	ppm	0	0	<1	0
Titanium	ppm	0	0	0	0
Silver	ppm	0	<1	0	0
Manganese	ppm	0	0	0	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	784	857	1050	1119
Magnesium	ppm	1067	1097	934	965
Zinc	ppm	1138	1188	1163	1185
Phosphorus	ppm	941	1041	989	1064
Barium	ppm	<1	<1	3	0
Boron	ppm	29	33	3	<1

Diagnosis

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time. Copper ppm levels are noted. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal. Light fuel dilution occurring. No other contaminants were detected in the oil. Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The condition of the oil is acceptable for the time in service.

Depot: INDVIL
Unique No: 5748760
Signed: Kevin Marson
Report Date: 22 Mar 2024

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GRAPHS

