

LIEBHERR

CONSTRUCTION EQUIPMENT



[ALLTERRA] LIEBHERR LH60M 65464 - Diesel Engine

Sample No: LH0281195

Oil Type: PETRO CANADA 10W40



Liebherr Canada

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 Richmond, BC
 CA V6W 1J8
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SAMPLE INFORMATION

Sample Number	LH0281195	LH0144865	LH	LH0122307
Sample Date	18 Jan 2024	31 Jul 2019	22 May 2019	02 Mar 2018
Machine Hours	17608	15200	0	13314
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	N/A	Not Changd
Sample Status	ABNORMAL	NORMAL	ABNORMAL	NORMAL



OIL CONDITION

Visc @ 100°C	cSt	14.0	13.8	13.3	14.3
Oxidation (PA)	%	72	52	54	57



CONTAMINATION

Water	%	NEG	NEG	0.441	NEG
Soot %	%	1	0.1	0.1	0.1
Nitration (PA)	%	93	70	70	55
Sulfation (PA)	%	64	55	53	54
Glycol	%	NEG	NEG	0.0	0.0
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	6	7	8	4
Sodium	ppm	3	3	4	2
Potassium	ppm	1	3	3	3



WEAR METALS

Iron	ppm	31	8	6	4
Copper	ppm	3	<1	<1	2
Lead	ppm	<1	0	<1	<1
Tin	ppm	<1	0	0	0
Aluminum	ppm	15	3	2	1
Chromium	ppm	<1	<1	0	0
Molybdenum	ppm	57	<1	<1	38
Nickel	ppm	<1	<1	<1	<1
Titanium	ppm	9	<1	0	<1
Silver	ppm	0	<1	0	0
Manganese	ppm	0	<1	<1	0
Vanadium	ppm	0	<1	0	<1



ADDITIVES

Calcium	ppm	1213	1310	1301	1431
Magnesium	ppm	825	736	712	577
Zinc	ppm	1177	799	777	999
Phosphorus	ppm	962	706	691	836
Barium	ppm	0	0	0	0
Boron	ppm	11	84	86	262

Diagnosis

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Aluminum ppm levels are abnormal. Piston wear is indicated. There is no indication of any contamination in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Depot: LIERIC
 Unique No: 5719944
 Signed: Kevin Marson
 Report Date: 25 Jan 2024



GRAPHS

