

LIEBHERR

CONSTRUCTION EQUIPMENT



046221-1465 - Diesel Engine

Sample No: LH

Oil Type: PETRO CANADA 10W30



SAMPLE INFORMATION

Sample Number	LH	LH0192719	LH	LH0169979
Sample Date	24 Jul 2023	27 Jul 2021	08 Apr 2021	07 Jul 2020
Machine Hours	3000	1878	1785	1304
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

Delsan - American Iron and Metal
 2187 Montee Masson
 Laval, QC
 CA H7B 0A6
 Contact: MANNY MARQUES
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 T:
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OIL CONDITION

Visc @ 100°C	cSt	12.6	14.8	11.4	11.5
Oxidation (PA)	%	80	67	86	62



CONTAMINATION

Soot %	%	0	0	0	0
Nitration (PA)	%	88	47	89	73
Sulfation (PA)	%	60	58	61	67
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	5	6	7	7
Sodium	ppm	4	3	4	<1
Potassium	ppm	2	3	2	1

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.



WEAR METALS

Iron	ppm	5	1	6	6
Copper	ppm	2	<1	4	3
Lead	ppm	<1	<1	<1	<1
Tin	ppm	<1	0	<1	<1
Aluminum	ppm	1	<1	<1	1
Chromium	ppm	<1	0	<1	<1
Molybdenum	ppm	46	5	58	61
Nickel	ppm	0	<1	<1	<1
Titanium	ppm	<1	<1	<1	<1
Silver	ppm	<1	<1	<1	0
Manganese	ppm	<1	0	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1091	1824	880	1067
Magnesium	ppm	917	173	1098	1041
Zinc	ppm	1209	1118	1274	1260
Phosphorus	ppm	1069	1003	1007	1084
Barium	ppm	0	0	<1	<1
Boron	ppm	32	163	21	3

Depot: DEL782MON
 Unique No: 5617208
 Signed: Wes Davis
 Report Date: 26 Jul 2023



GRAPHS

