

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### 042990-1491 - Diesel Engine

Sample No: LH0277733

Oil Type: PETRO CANADA SUPREME 5W30



#### SAMPLE INFORMATION

Sample Number	LH0277733	LH0247052	LH0235046	LH0227322
Sample Date	27 Nov 2023	16 Feb 2023	19 Jul 2022	18 Mar 2022
Machine Hours	6947	6512	5990	5580
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  
 mmarques@delsan-aim.com  
 T:  
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#### OIL CONDITION

Visc @ 100°C	cSt	13.2	13.8	11.7	11.8
Oxidation (PA)	%	60	66	78	86



#### CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0	0	0	0
Nitration (PA)	%	63	58	83	93
Sulfation (PA)	%	49	53	58	63
Glycol	%	NEG	0.0	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	4	6	5	6
Sodium	ppm	2	2	4	4
Potassium	ppm	<1	7	1	2

#### 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. Viscosity of sample indicates oil is within SAE 40 range, advise investigate. The condition of the oil is acceptable for the time in service.



#### WEAR METALS

Iron	ppm	4	2	4	7
Copper	ppm	2	<1	2	2
Lead	ppm	<1	0	<1	<1
Tin	ppm	0	0	0	<1
Aluminum	ppm	1	<1	1	1
Chromium	ppm	0	0	0	<1
Molybdenum	ppm	48	2	56	59
Nickel	ppm	0	0	0	<1
Titanium	ppm	0	1	<1	0
Silver	ppm	<1	0	0	<1
Manganese	ppm	0	0	<1	<1
Vanadium	ppm	0	0	0	0



#### ADDITIVES

Calcium	ppm	1219	2156	891	842
Magnesium	ppm	783	42	1104	1186
Zinc	ppm	1150	1151	1267	1257
Phosphorus	ppm	972	1085	1024	1085
Barium	ppm	<1	0	0	0
Boron	ppm	8	37	23	26

**Depot:** DEL782MON  
**Unique No:** 5684488  
**Signed:** Kevin Marson  
**Report Date:** 29 Nov 2023



### GRAPHS

