

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR L586 053090-1334 - Diesel Engine

Sample No: LH0278860

Oil Type: PETRO CANADA SUPREME 10W40 MOTOR OIL



SAMPLE INFORMATION

Sample Number	LH0278860	LH0274669	LH0261821	LH0247322
Sample Date	11 Jan 2024	11 Aug 2023	19 May 2023	16 Feb 2023
Machine Hours	9661	0	8213	7639
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	ABNORMAL	NORMAL

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OIL CONDITION

Visc @ 40°C	cSt	---	88.6	---	---
Visc @ 100°C	cSt	13.9	13.5	11.4	13.2
Viscosity Index (VI)	Scale	---	154	---	---
Oxidation (PA)	%	58	62	75	62



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0	0	0	0
Nitration (PA)	%	51	58	75	62
Sulfation (PA)	%	51	55	55	57
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	2.8	<1.0
Silicon	ppm	5	8	6	4
Sodium	ppm	1	2	4	2
Potassium	ppm	<1	<1	<1	0



WEAR METALS

Iron	ppm	2	7	5	4
Copper	ppm	<1	<1	1	<1
Lead	ppm	<1	<1	0	<1
Tin	ppm	0	0	0	<1
Aluminum	ppm	2	1	2	1
Chromium	ppm	0	<1	<1	0
Molybdenum	ppm	56	58	62	57
Nickel	ppm	<1	0	<1	0
Titanium	ppm	0	<1	<1	0
Silver	ppm	0	0	0	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1032	1019	888	1063
Magnesium	ppm	934	991	1099	947
Zinc	ppm	1134	1173	1187	1171
Phosphorus	ppm	991	1055	1077	1060
Barium	ppm	0	0	0	0
Boron	ppm	<1	4	31	1

Diagnosis

Confirm the source of the lubricant being utilized for top-up/fill.

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

Depot: WAT70BRA2

Unique No: 5710059

Signed: Wes Davis

Report Date: 16 Jan 2024



GRAPHS

