

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR PR776 021879-1860 - Diesel Engine

Sample No: LH0174053

Oil Type: MOBIL DELVAC 1300 SUPER 10W30



LIEBHERR MINING EQUIPMENT CO
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SAMPLE INFORMATION

Sample Number	LH0174053	LH0220563	LHMC129609	LH0572613
Sample Date	10 Oct 2023	22 Mar 2023	01 Feb 2023	26 Dec 2022
Machine Hours	2436	2001	1470	1000
Oil Hours	537	0	0	500
Oil Changed	N/A	N/A	N/A	N/A
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL



OIL CONDITION

Visc @ 100°C	cSt	11.1	11.0	11.0	11.3
Base Number (BN)	mg KOH/g	9.1	9.9	9.0	11.6
Oxidation (PA)	%	79	82	83	89



CONTAMINATION

Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	53	55	59	63
Sulfation (PA)	%	59	60	62	66
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	7	7	7	7
Sodium	ppm	3	6	3	3
Potassium	ppm	<1	<1	1	<1



WEAR METALS

Iron	ppm	7	15	10	9
Copper	ppm	4	4	15	18
Lead	ppm	<1	<1	2	2
Tin	ppm	<1	<1	2	2
Aluminum	ppm	2	1	<1	<1
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	40	41	40	36
Nickel	ppm	0	<1	0	0
Titanium	ppm	0	0	0	0
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1698	1606	1654	1791
Magnesium	ppm	505	465	462	456
Zinc	ppm	933	878	890	917
Phosphorus	ppm	772	720	716	750
Barium	ppm	0	0	0	0
Boron	ppm	49	42	52	46

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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Depot: LIEGIL
 Unique No: 10710402
 Signed: Wes Davis
 Report Date: 24 Oct 2023

Contact/Location: TED PILZ - LIEGIL



GRAPHS

