

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH50 156991 - Diesel Engine

Sample No: LH0290887

Oil Type: DIESEL ENGINE OIL SAE 40



CMI - COMBINED METAL INDUSTRIES
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Sample Information

Sample Number	LH0290887	LH0291030	LH0289726	LH0285073
Sample Date	07 Jul 2024	27 May 2024	21 Apr 2024	04 Mar 2024
Machine Hours	2636	2198	1662	1005
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL



Oil Condition

Visc @ 100°C	cSt	13.3	12.8	12.7	11.7
Oxidation (PA)	%	66	73	91	214



Contamination

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0	0	0	0
Nitration (PA)	%	65	74	77	108
Sulfation (PA)	%	52	56	62	110
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	0.8	1.7
Silicon	ppm	6	6	6	8
Sodium	ppm	1	2	2	3
Potassium	ppm	<1	<1	<1	3



Wear Metals

Iron	ppm	3	4	6	15
Copper	ppm	2	3	15	93
Lead	ppm	0	0	<1	9
Tin	ppm	0	0	<1	1
Aluminum	ppm	<1	<1	1	2
Chromium	ppm	<1	0	<1	1
Molybdenum	ppm	56	56	56	49
Nickel	ppm	0	0	0	<1
Titanium	ppm	0	0	0	0
Silver	ppm	0	0	0	0
Manganese	ppm	0	0	<1	<1
Vanadium	ppm	0	0	0	0



Additives

Calcium	ppm	983	1006	1096	1324
Magnesium	ppm	929	972	952	929
Zinc	ppm	1172	1190	1137	859
Phosphorus	ppm	970	995	920	708
Barium	ppm	<1	<1	7	53
Boron	ppm	3	7	10	65

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.

Depot: COMWES
 Unique No: 5811656
 Signed: Wes Davis
 Report Date: 08 Jul 2024



Graphs

