

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH50M 110225-1216 - Diesel Engine

Sample No: LH05891742

Oil Type: MOBIL DELVAC 1300 SUPER15W40



VERSO CORP - QUINNESEC MILL
 W6791 US HWY 2
 QUINNESEC, MI
 US 49876
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SAMPLE INFORMATION

Sample Number	LH05891742	LH05835719	LH05816816	LH05776620
Sample Date	05 Jul 2023	01 May 2023	10 Apr 2023	23 Feb 2023
Machine Hours	12764	12484	12270	11995
Oil Hours	0	0	0	11995
Oil Changed	Not Changd	Not Changd	Not Changd	Changed
Sample Status	ATTENTION	ATTENTION	ATTENTION	ATTENTION



OIL CONDITION

Visc @ 100°C	cSt	11.2	11.6	12.0	12.0
Base Number (BN)	mg KOH/g	5.6	5.6	7.2	8.1
Oxidation (PA)	%	69	53	50	48



CONTAMINATION

Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	79	69	65	63
Sulfation (PA)	%	59	47	48	49
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	6	7	6	6
Sodium	ppm	2	<1	1	1
Potassium	ppm	1	0	1	2



WEAR METALS

Iron	ppm	4	2	3	2
Copper	ppm	2	<1	<1	<1
Lead	ppm	1	0	0	<1
Tin	ppm	<1	0	0	0
Aluminum	ppm	4	2	0	2
Chromium	ppm	0	0	0	<1
Molybdenum	ppm	<1	0	0	0
Nickel	ppm	0	0	0	0
Titanium	ppm	<1	<1	<1	<1
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	1
Vanadium	ppm	<1	0	0	0



ADDITIVES

Calcium	ppm	1238	1384	1221	1392
Magnesium	ppm	645	750	640	694
Zinc	ppm	754	873	789	836
Phosphorus	ppm	652	744	686	685
Barium	ppm	0	0	3	0
Boron	ppm	46	88	90	96

Diagnosis

No corrective action is recommended at this time. 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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Depot: VERQUI
Unique No: 10547552
Signed: Don Baldrige
Report Date: 08 Jul 2023



GRAPHS

