

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR LH50M 1203-75766 - Diesel Engine

Sample No: LH0243355

Oil Type: MOBIL DELVAC 1300 SUPER15W40



#### SAMPLE INFORMATION

Sample Number	LH0243355	LHMC96181	LHMC96177	LHMC79151
Sample Date	27 Sep 2023	27 Dec 2018	30 Aug 2018	23 Jul 2018
Machine Hours	20040	8936	7970	7646
Oil Hours	150	300	300	329
Oil Changed	N/A	Changed	Changed	Changed
Sample Status	ABNORMAL	NORMAL	NORMAL	NORMAL

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#### OIL CONDITION

Visc @ 100°C	cSt	11.5	13.38	13.25	13.48
Base Number (BN)	mg KOH/g	10.6	---	---	---
Oxidation (PA)	%	76	85	84	85



#### CONTAMINATION

Soot %	%	0.8	0.9	0.8	1
Nitration (PA)	%	62	73	72	76
Sulfation (PA)	%	60	63	63	63
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	6.5	<1.0	<1.0	<1.0
Silicon	ppm	10	14	13	11
Sodium	ppm	2	5	7	6
Potassium	ppm	0	0	2	0

#### Diagnosis

We advise that you check the fuel injection system. Resample at the next service interval to monitor. The aluminum level is abnormal. All other component wear rates are normal. There is a moderate amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.



#### WEAR METALS

Iron	ppm	14	10	7	8
Copper	ppm	2	1	1	1
Lead	ppm	<1	0	<1	<1
Tin	ppm	<1	0	0	0
Aluminum	ppm	14	4	4	3
Chromium	ppm	1	<1	<1	<1
Molybdenum	ppm	39	44	42	36
Nickel	ppm	0	<1	<1	<1
Titanium	ppm	0	0	<1	<1
Silver	ppm	0	0	<1	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	0	0	0



#### ADDITIVES

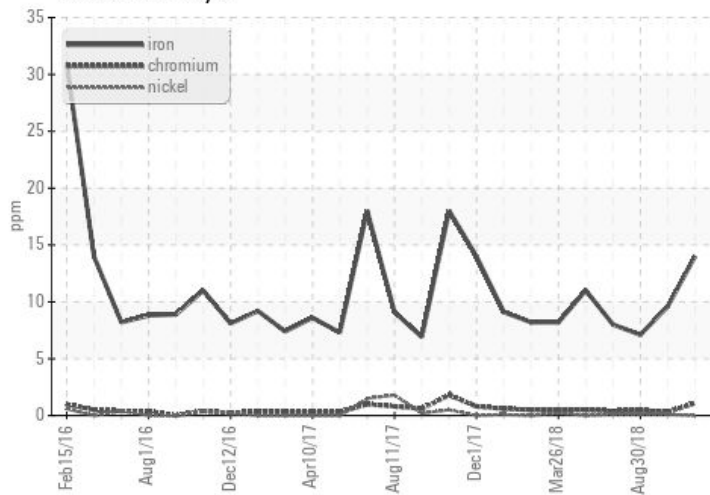
Calcium	ppm	1523	1781	1711	1556
Magnesium	ppm	474	521	509	480
Zinc	ppm	837	890	880	791
Phosphorus	ppm	694	681	714	657
Barium	ppm	0	0	0	0
Boron	ppm	47	28	22	18

Depot: PACTOM  
 Unique No: 10673428  
 Signed: Jonathan Hester  
 Report Date: 04 Oct 2023

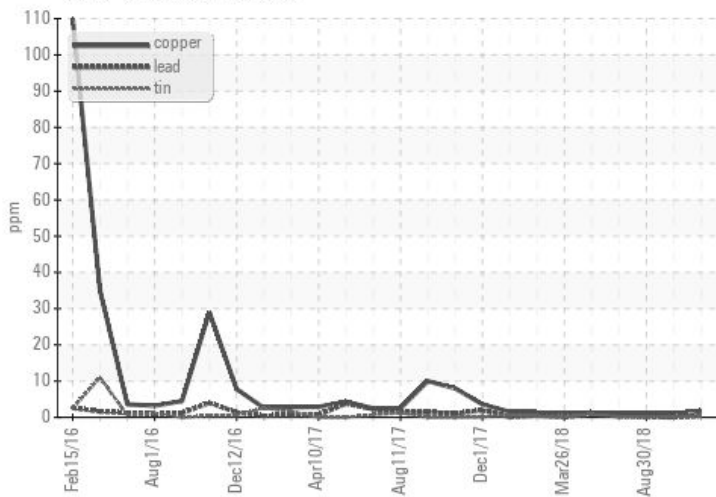


### GRAPHS

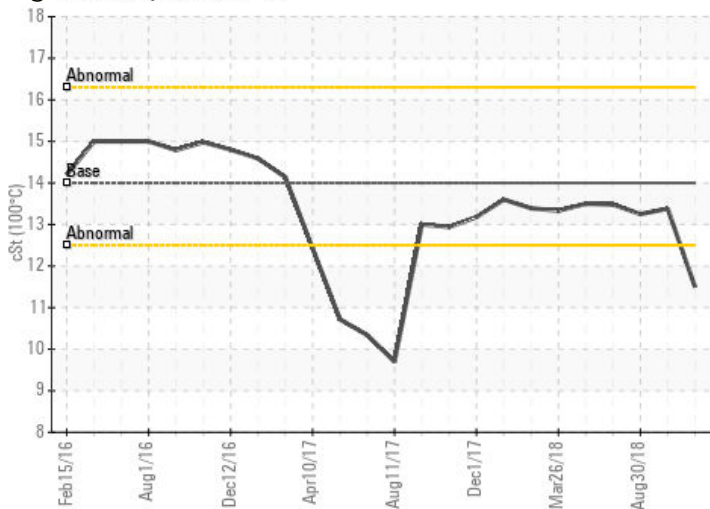
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

