



# LIEBHERR

## OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Machine Id  
**LIEBHERR LH60M 146314-1217**  
Component  
**Diesel Engine**  
Fluid  
**LIEBHERR MOTOROIL 5W30 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0244765</b>	LH0243278	---
Sample Date		Client Info		<b>21 Oct 2023</b>	21 Jun 2023	---
Machine Age	hrs	Client Info		<b>1500</b>	463	---
Oil Age	hrs	Client Info		<b>500</b>	463	---
Filter Age	hrs	Client Info		<b>500</b>	0	---
Oil Changed		Client Info		<b>Changed</b>	Changed	---
Filter Changed		Client Info		<b>Changed</b>	Changed	---
Sample Status				<b>NORMAL</b>	NORMAL	---

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>21</b>	9	---
Chromium	ppm	ASTM D5185m	>5	<b>2</b>	<1	---
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	---
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	---
Aluminum	ppm	ASTM D5185m	>15	<b>4</b>	3	---
Lead	ppm	ASTM D5185m	>30	<b>3</b>	2	---
Copper	ppm	ASTM D5185m	>125	<b>37</b>	172	---
Tin	ppm	ASTM D5185m	>5	<b>2</b>	1	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

### CONTAMINATION

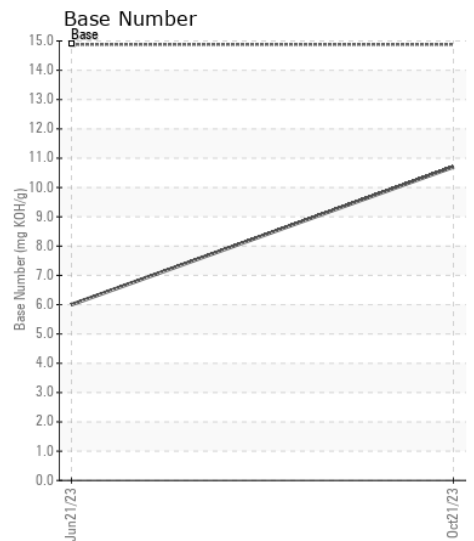
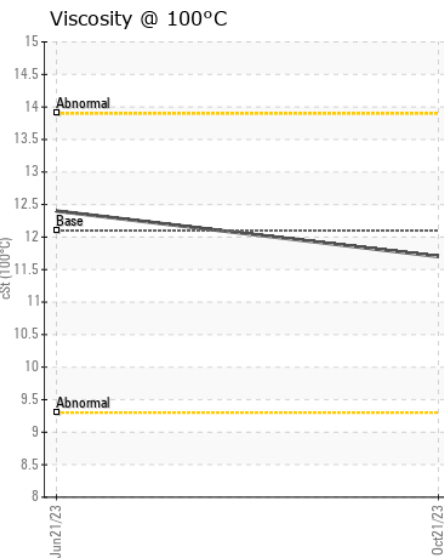
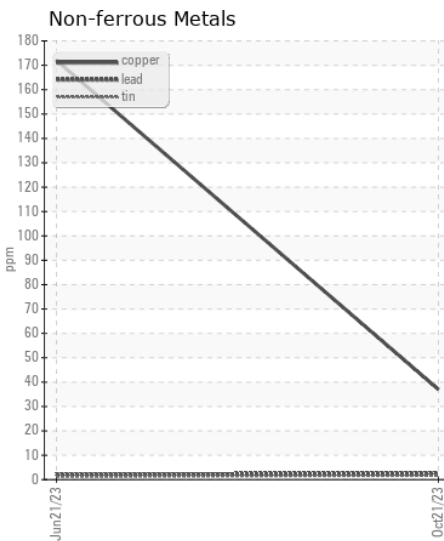
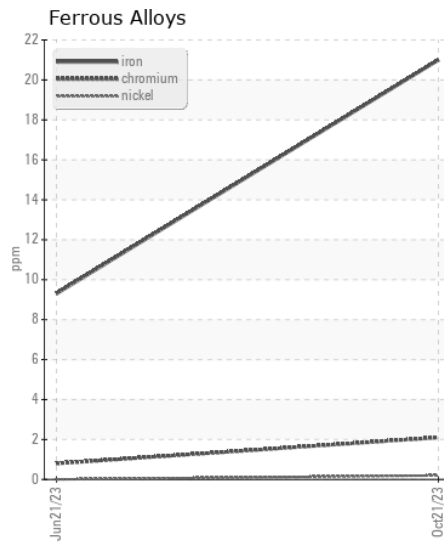
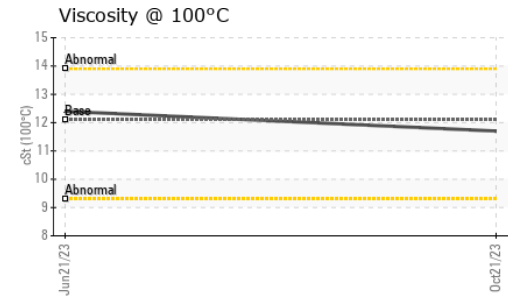
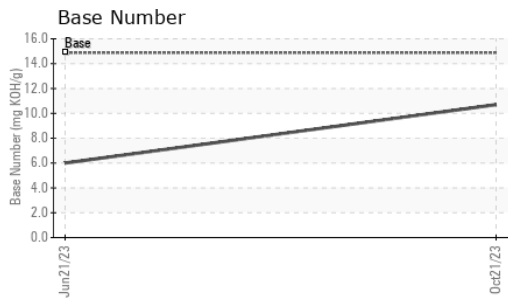
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	<b>8</b>	8	---
Potassium	ppm	ASTM D5185m	>20	<b>13</b>	3	---
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	---
Water		WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>17.1</b>	11.4	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.5</b>	35.0	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	---

### FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		<b>0</b>	2	---
Boron	ppm	ASTM D5185m	236	<b>197</b>	92	---
Barium	ppm	ASTM D5185m	0	<b>4</b>	28	---
Molybdenum	ppm	ASTM D5185m	0	<b>7</b>	51	---
Manganese	ppm	ASTM D5185m	<1	<b>&lt;1</b>	1	---
Magnesium	ppm	ASTM D5185m	25	<b>124</b>	979	---
Calcium	ppm	ASTM D5185m	4298	<b>3829</b>	1344	---
Phosphorus	ppm	ASTM D5185m	1020	<b>1035</b>	879	---
Zinc	ppm	ASTM D5185m	1164	<b>1143</b>	1071	---
Sulfur	ppm	ASTM D5185m	2460	<b>2848</b>	3056	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>21.3</b>	42.8	---
Base Number (BN)	mg KOH/g	ASTM D2896	14.88	<b>10.7</b>	6.0	---
Visc @ 100°C	cSt	ASTM D445	12.1	<b>11.7</b>	12.4	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LH0244765 **Received** : 11 Jan 2024  
**Lab Number** : 06058610 **Diagnosed** : 12 Jan 2024  
**Unique Number** : 10829992 **Diagnostician** : Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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