



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**LIEBHERR LH80M 1218-157090**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0282891</b>	LH0282883	LH0282869
Sample Date		Client Info		<b>03 May 2024</b>	19 Apr 2024	28 Mar 2024
Machine Age	hrs	Client Info		<b>1198</b>	997	711
Oil Age	hrs	Client Info		<b>0</b>	0	205
Filter Age	hrs	Client Info		<b>0</b>	0	205
Oil Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>4</b>	5	3
Chromium	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>1</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>3</b>	2	3
Lead	ppm	ASTM D5185m	>30	<b>&lt;1</b>	2	0
Copper	ppm	ASTM D5185m	>125	<b>9</b>	54	39
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

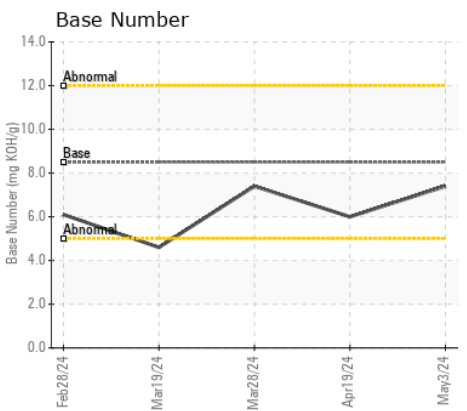
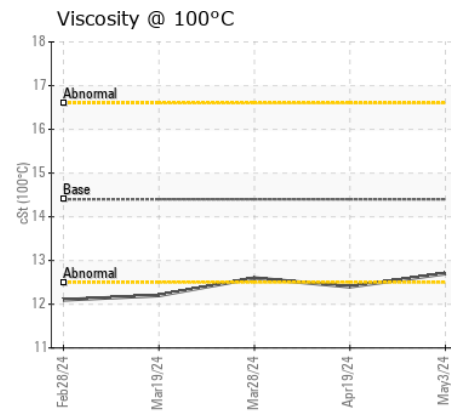
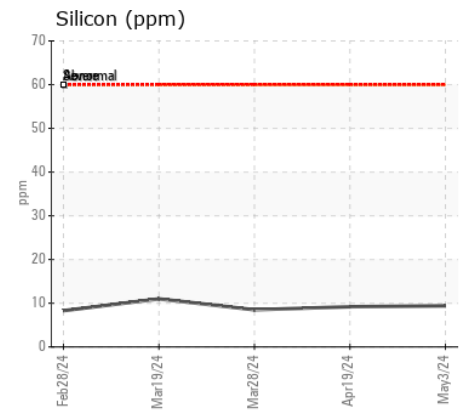
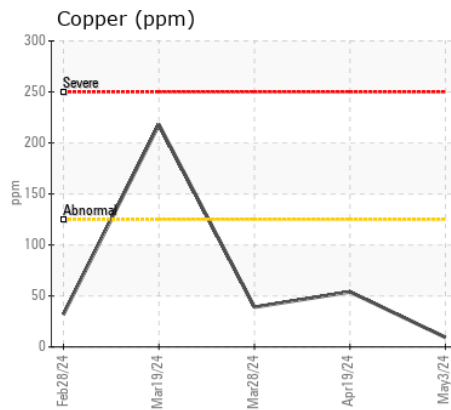
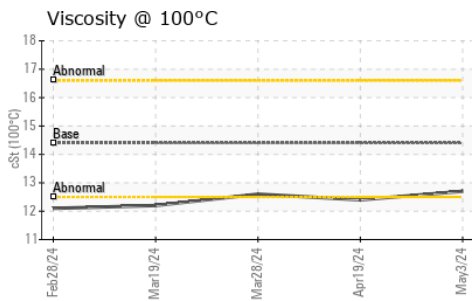
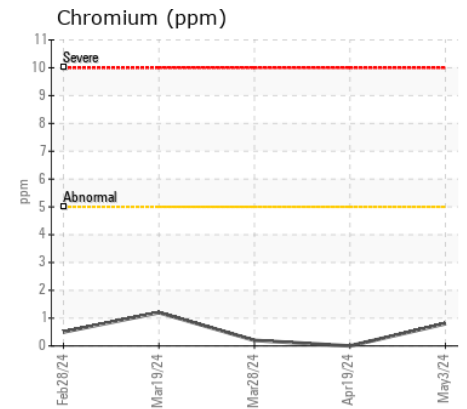
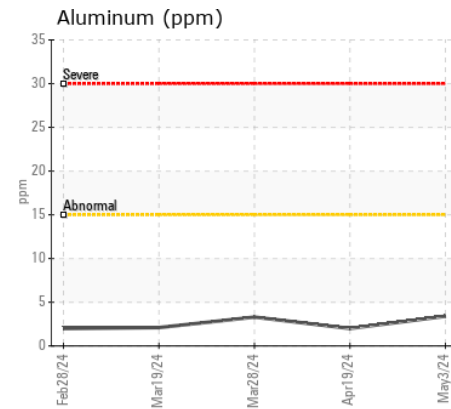
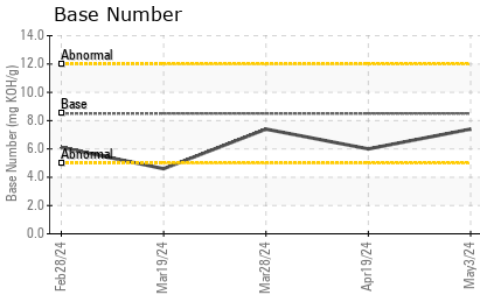
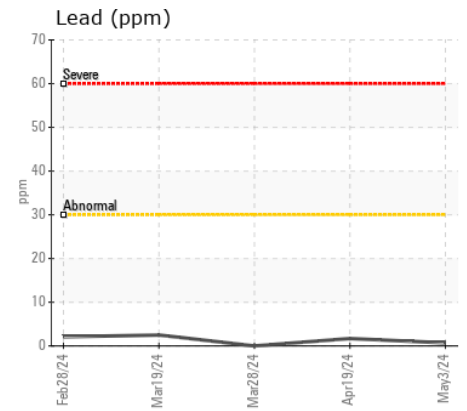
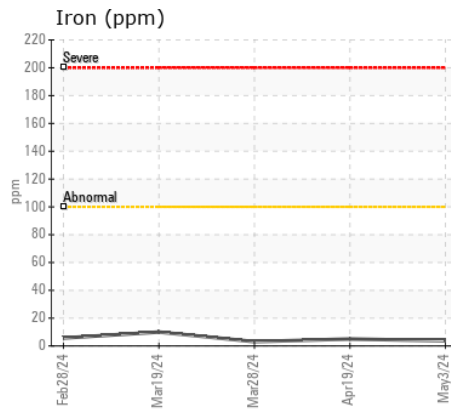
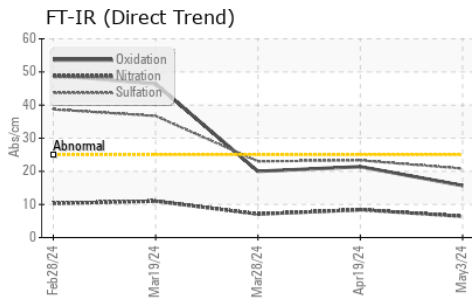
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	<b>9</b>	9	8
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	<1	3
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.4</b>	8.4	7.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.8</b>	23.3	23.0
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	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	>158	<b>3</b>	<1	1
Boron	ppm	ASTM D5185m	250	<b>403</b>	301	348
Barium	ppm	ASTM D5185m	10	<b>2</b>	5	0
Molybdenum	ppm	ASTM D5185m	100	<b>80</b>	79	78
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	450	<b>405</b>	524	455
Calcium	ppm	ASTM D5185m	3000	<b>1273</b>	1492	1351
Phosphorus	ppm	ASTM D5185m	1150	<b>961</b>	1059	1036
Zinc	ppm	ASTM D5185m	1350	<b>1121</b>	1263	1157
Sulfur	ppm	ASTM D5185m	4250	<b>3248</b>	3773	3127
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.7</b>	21.4	20.0
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>7.4</b>	6.0	7.4
Visc @ 100°C	cSt	ASTM D445	14.4	<b>12.7</b>	12.4	12.6



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LH0282891 **Received** : 28 May 2024  
**Lab Number** : 06192009 **Tested** : 29 May 2024  
**Unique Number** : 11048761 **Diagnosed** : 29 May 2024 - Wes Davis  
**Test Package** : MOBCE ( 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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