



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**LIEBHERR LH50M 145181-1216**  
Component  
**Diesel Engine**  
Fluid  
**SAE 5W30 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0291192</b>	LH0286809	LH0277541
Sample Date		Client Info		<b>10 Jun 2024</b>	01 Apr 2024	04 Jan 2024
Machine Age	hrs	Client Info		<b>2472</b>	2082	1614
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>66	<b>3</b>	4	4
Chromium	ppm	ASTM D5185(m)	>4	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185(m)	>4	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>8	<b>&lt;1</b>	1	1
Lead	ppm	ASTM D5185(m)	>10	<b>0</b>	0	2
Copper	ppm	ASTM D5185(m)	>74	<b>2</b>	6	45
Tin	ppm	ASTM D5185(m)	>4	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---

### CONTAMINATION

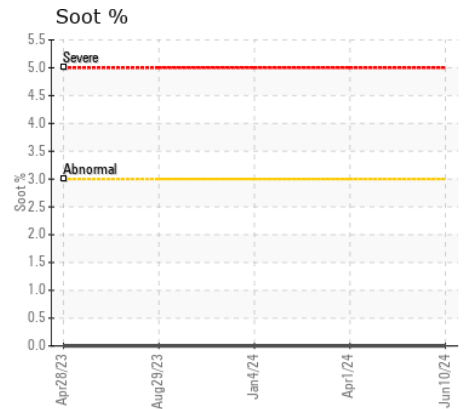
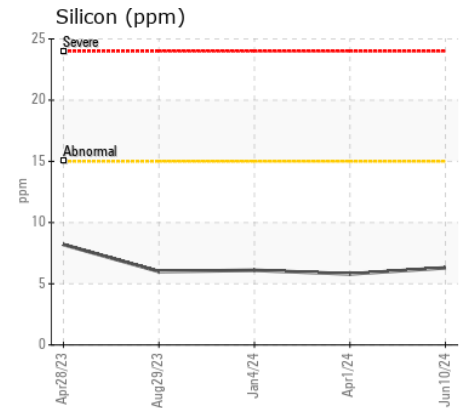
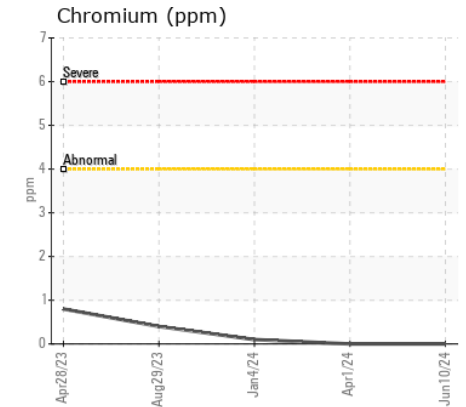
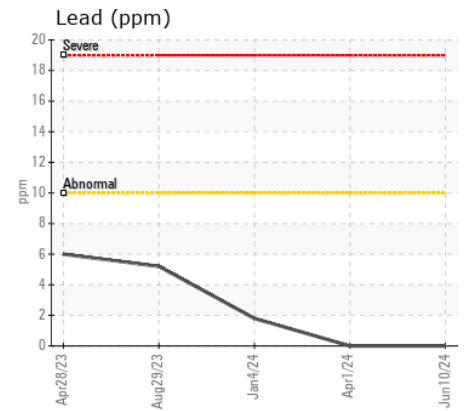
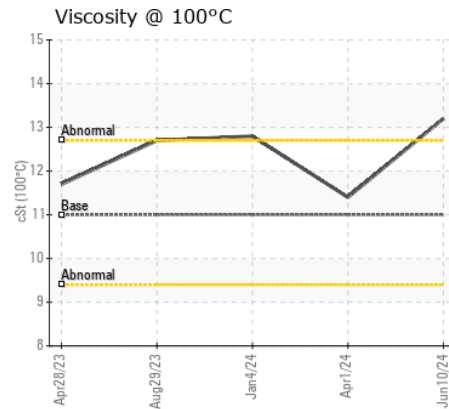
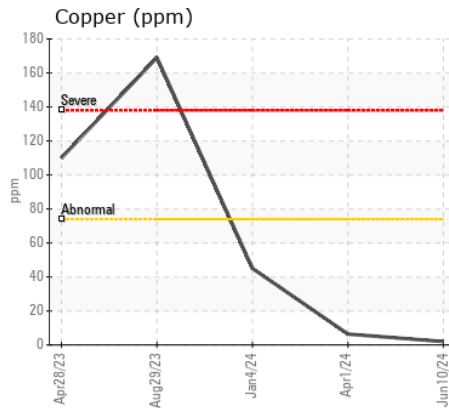
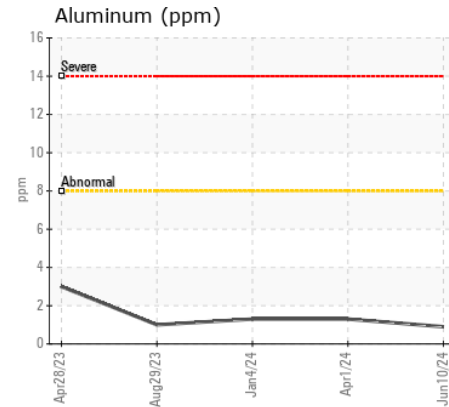
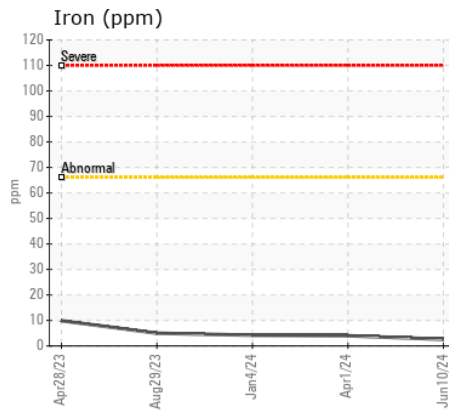
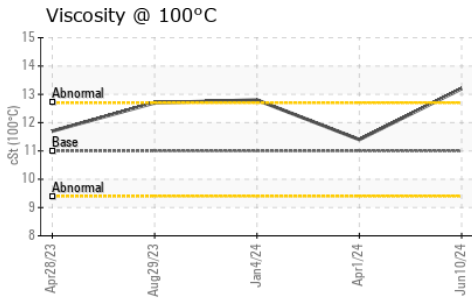
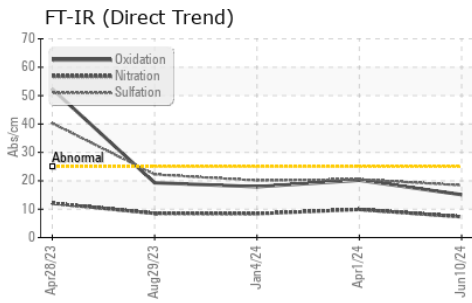
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>15	<b>6</b>	6	6
Potassium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
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</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>7.3</b>	9.9	8.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>18.4</b>	20.5	20.1
Silt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Debris	scalar	Visual*	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	Visual*	NONE	<b>VLITE</b>	---	---
Appearance	scalar	Visual*	NORML	<b>NORML</b>	---	---
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

Viscosity of sample indicates oil is within SAE 40 range, advise investigate. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>1</b>	3	1
Boron	ppm	ASTM D5185(m)		<b>6</b>	29	2
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Molybdenum	ppm	ASTM D5185(m)		<b>57</b>	57	58
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)		<b>959</b>	1094	970
Calcium	ppm	ASTM D5185(m)		<b>1034</b>	839	1067
Phosphorus	ppm	ASTM D5185(m)		<b>970</b>	971	962
Zinc	ppm	ASTM D5185(m)		<b>1172</b>	1191	1153
Sulfur	ppm	ASTM D5185(m)		<b>2530</b>	2600	2264
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>15.1</b>	20.2	17.9
Visc @ 100°C	cSt	ASTM D7279(m)	11.0	<b>13.2</b>	11.4	12.8



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0291192 **Received** : 11 Jun 2024  
**Lab Number** : 02641002 **Tested** : 12 Jun 2024  
**Unique Number** : 5798541 **Diagnosed** : 12 Jun 2024 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: VISUAL )

**METALOGICS INC**  
 70 NORTH QUEEN ST.  
 ETOBICOKE, ON  
 CA M8Z 2C7  
 Contact: Service Manager

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.

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