



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**LIEBHERR LH50M 144587-1216**  
Component  
**Hydraulic System**  
Fluid  
**NOT GIVEN (--- GAL)**

### RECOMMENDATION

Check seals and/or filters for points of contaminant entry. We advise that you check for the source of water entry. We recommend that you drain the oil from the component if this has not already been done. We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

### WEAR

All component wear rates are normal.

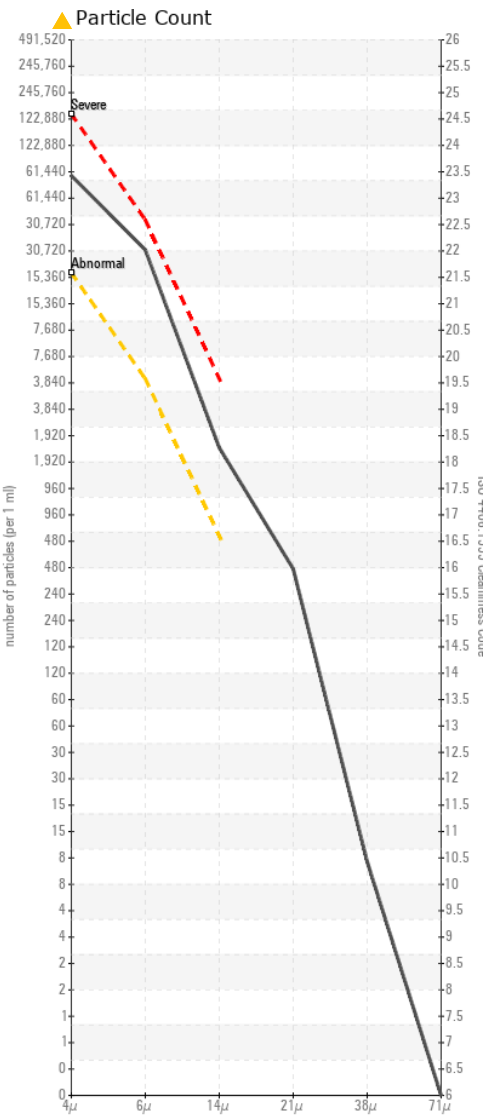
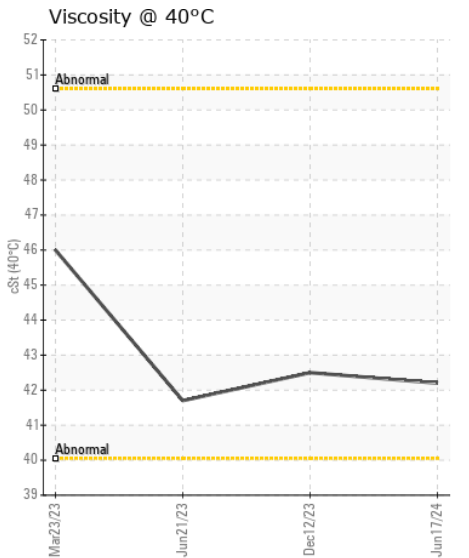
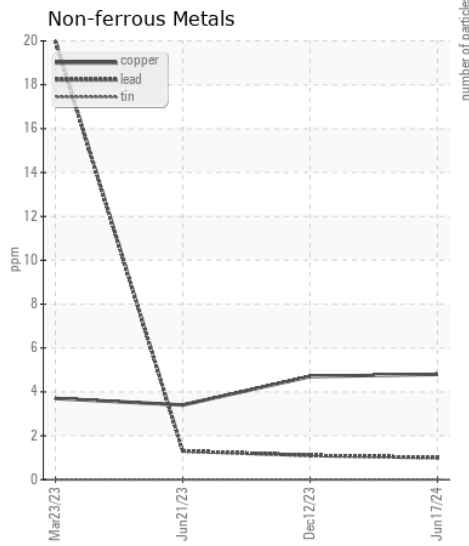
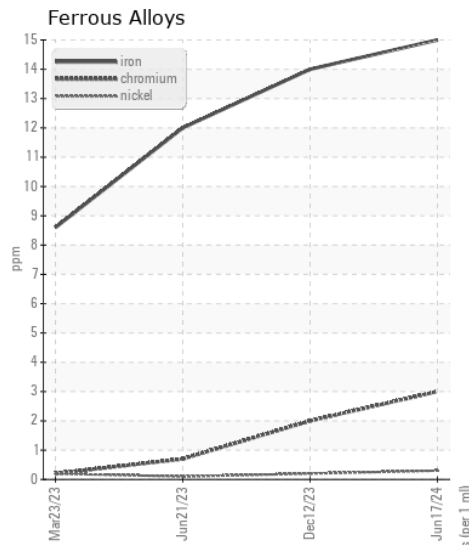
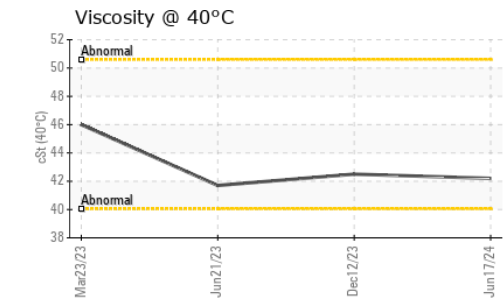
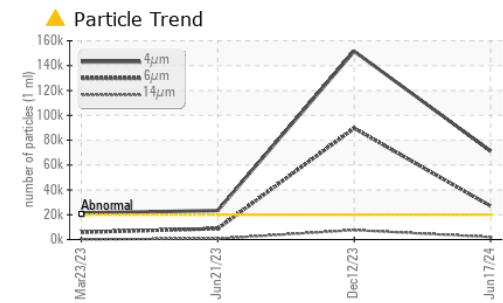
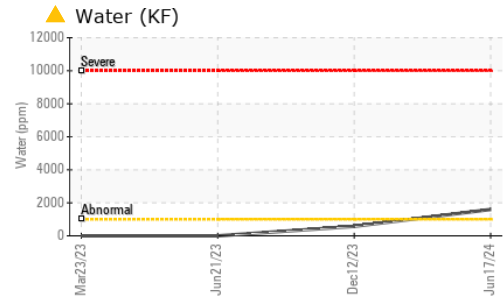
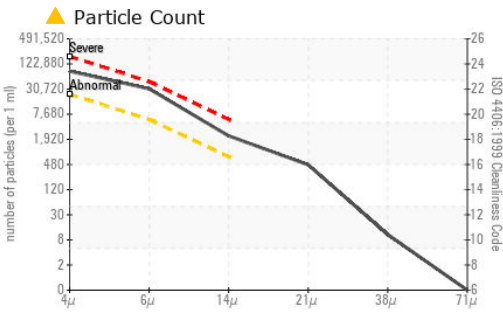
### CONTAMINATION

There is a moderate amount of particulates (2 to 100 microns in size) present in the oil. There is a moderate concentration of water present in the oil.

### FLUID CONDITION

The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH</b>	LH	LH0234461
Sample Date		Client Info		<b>17 Jun 2024</b>	12 Dec 2023	21 Jun 2023
Machine Age	hrs	Client Info		<b>3191</b>	2050	1004
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>Not Changed</b>	Not Changed	Not Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	N/A
Sample Status				<b>ABNORMAL</b>	SEVERE	ABNORMAL
Iron	ppm	ASTM D5185(m)	>50	<b>15</b>	14	12
Chromium	ppm	ASTM D5185(m)	>5	<b>3</b>	2	<1
Nickel	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Aluminum	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185(m)	>4	<b>1</b>	1	1
Copper	ppm	ASTM D5185(m)	>10	<b>5</b>	5	3
Tin	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silicon	ppm	ASTM D5185(m)	>17	<b>4</b>	4	3
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	1
Water	%	ASTM D6304*	>0.1	<b>▲ 0.159</b>	0.057	---
ppm Water	ppm	ASTM D6304*	>1000	<b>▲ 1597</b>	573	---
Particles >4µm		ASTM D7647	>20000	<b>▲ 71285</b>	▲ 151529	● 23363
Particles >6µm		ASTM D7647	>5000	<b>▲ 26991</b>	▲ 89584	● 8769
Particles >14µm		ASTM D7647	>640	<b>▲ 2030</b>	▲ 7632	● 770
Particles >21µm		ASTM D7647	>160	<b>▲ 415</b>	▲ 949	● 159
Particles >38µm		ASTM D7647	>40	<b>9</b>	9	1
Particles >71µm		ASTM D7647	>10	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>▲ 23/22/18</b>	▲ 24/24/20	● 22/20/17
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>▲ WGOIL</b>	NORML	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	<b>▲ 1%</b>	1%	.2%
Sodium	ppm	ASTM D5185(m)		<b>2</b>	2	2
Boron	ppm	ASTM D5185(m)		<b>1</b>	2	1
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	0
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185(m)		<b>5</b>	4	4
Calcium	ppm	ASTM D5185(m)		<b>1139</b>	1117	1273
Phosphorus	ppm	ASTM D5185(m)		<b>627</b>	618	673
Zinc	ppm	ASTM D5185(m)		<b>724</b>	728	722
Sulfur	ppm	ASTM D5185(m)		<b>3361</b>	3369	3618
Visc @ 40°C	cSt	ASTM D7279(m)		<b>42.2</b>	42.5	41.7



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH **Received** : 19 Jun 2024  
**Lab Number** : 02642987 **Tested** : 20 Jun 2024  
**Unique Number** : 5800526 **Diagnosed** : 21 Jun 2024 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: KF, PrtCount )

**Industrial Metals**  
 550 Messier St.  
 Winnipeg, MB  
 CA R2J 0G5  
 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.

T:  
F: