



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**LIEBHERR LH40M 116354-1215**  
Component  
**Hydraulic System**  
Fluid  
**LIEBHERR HYDRAULIC HVI (605 LTR)**

### RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill.  
Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0261419</b>	LH0277624	LH0277637
Sample Date		Client Info		<b>22 Mar 2024</b>	25 Jan 2024	20 Oct 2023
Machine Age	hrs	Client Info		<b>10603</b>	10071	9503
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 Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	ATTENTION	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>60	<b>29</b>	30	28
Chromium	ppm	ASTM D5185(m)	>40	<b>2</b>	2	2
Nickel	ppm	ASTM D5185(m)	>10	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185(m)	>5	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>15	<b>2</b>	2	3
Tin	ppm	ASTM D5185(m)	>5	<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

### CONTAMINATION

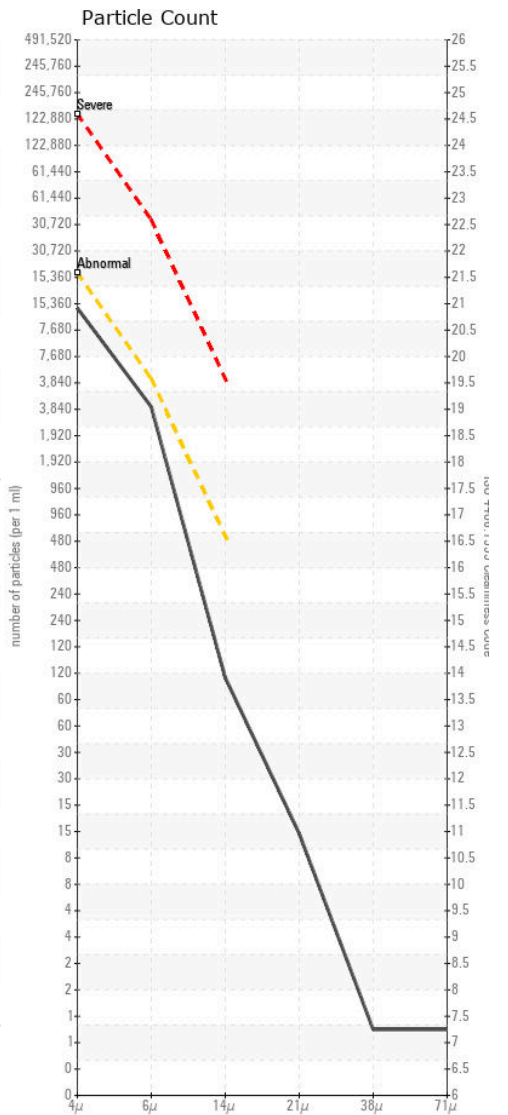
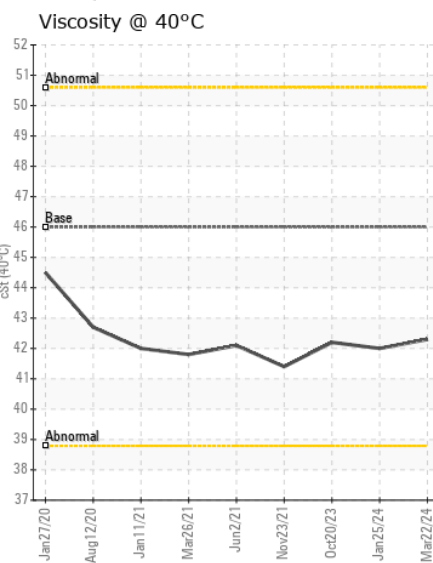
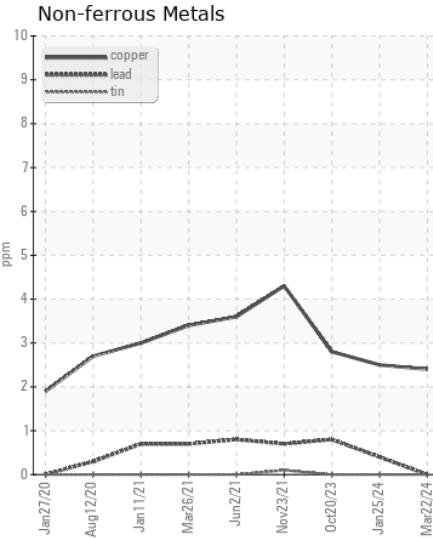
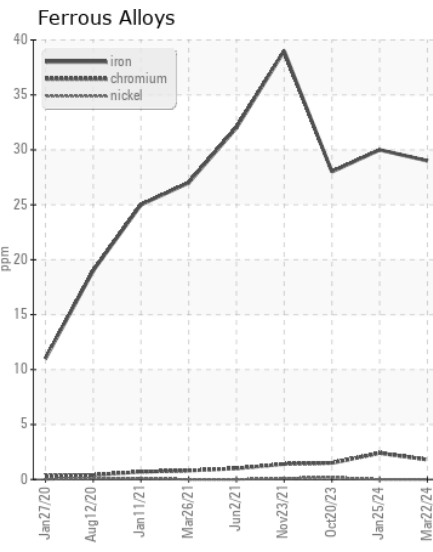
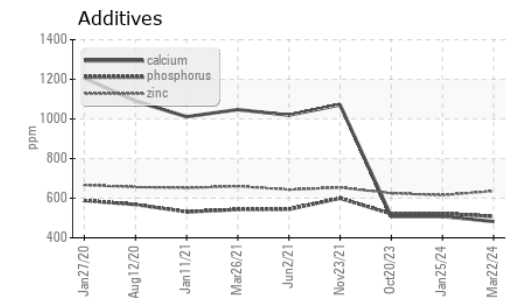
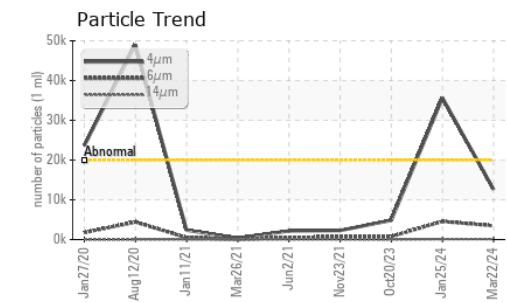
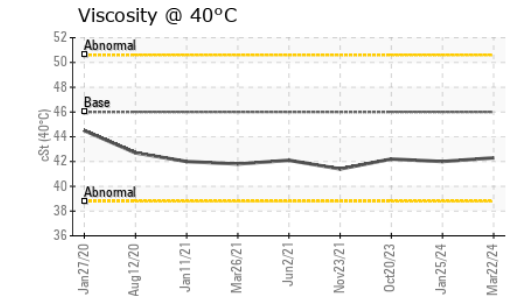
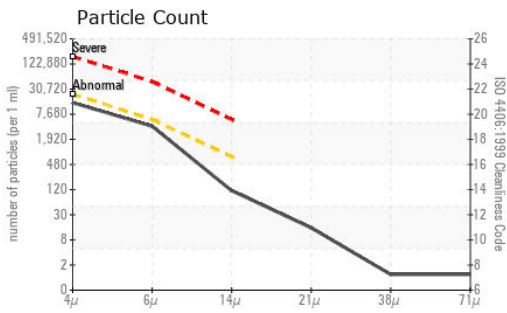
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	2	2
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	1	4
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>20000	<b>12600</b>	35639	4847
Particles >6µm		ASTM D7647	>5000	<b>3454</b>	4556	773
Particles >14µm		ASTM D7647	>640	<b>100</b>	101	9
Particles >21µm		ASTM D7647	>160	<b>13</b>	16	1
Particles >38µm		ASTM D7647	>40	<b>1</b>	2	0
Particles >71µm		ASTM D7647	>10	<b>1</b>	1	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>21/19/14</b>	22/19/14	19/17/10
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>VLITE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>VLITE</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*	>0.1	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

Additive levels indicate the addition of a different brand, or type of oil.  
The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>2</b>	1	3
Boron	ppm	ASTM D5185(m)	0	<b>12</b>	12	15
Barium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	<1	<1
Molybdenum	ppm	ASTM D5185(m)	0	<b>6</b>	6	6
Manganese	ppm	ASTM D5185(m)	<1	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	7	<b>34</b>	35	34
Calcium	ppm	ASTM D5185(m)	1317	<b>482</b>	508	508
Phosphorus	ppm	ASTM D5185(m)	611	<b>508</b>	523	521
Zinc	ppm	ASTM D5185(m)	696	<b>636</b>	615	625
Sulfur	ppm	ASTM D5185(m)	2574	<b>1756</b>	1903	1834
Visc @ 40°C	cSt	ASTM D7279(m)	46	<b>42.3</b>	42.0	42.2



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0261419 **Received** : 08 Apr 2024  
**Lab Number** : 02627395 **Tested** : 10 Apr 2024  
**Unique Number** : 5760527 **Diagnosed** : 10 Apr 2024 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: PrtCount )

**KIMCO STEEL SALES LTD.**  
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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.