



# LIEBHERR

## OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id  
**LIEBHERR HS8130 185282 (S/N GFL286)**  
 Component  
**Hydraulic System**  
 Fluid  
**LIEBHERR HYDRAULIC 37 (--- GAL)**

### RECOMMENDATION

We advise that you check for the source of water entry. We advise that you follow the water drain-off procedure for this component. We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0286602</b>	LH0277817	LH0265750
Sample Date		Client Info		<b>14 Jun 2024</b>	17 Nov 2023	02 Jun 2023
Machine Age	hrs	Client Info		<b>9037</b>	8008	7105
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 Chngd</b>	N/A	Not Chngd
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	ABNORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>20	<b>5</b>	5	4
Chromium	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>10	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>10	<b>&lt;1</b>	0	<1
Lead	ppm	ASTM D5185(m)	>10	<b>&lt;1</b>	1	<1
Copper	ppm	ASTM D5185(m)	>75	<b>5</b>	4	3
Tin	ppm	ASTM D5185(m)	>10	<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

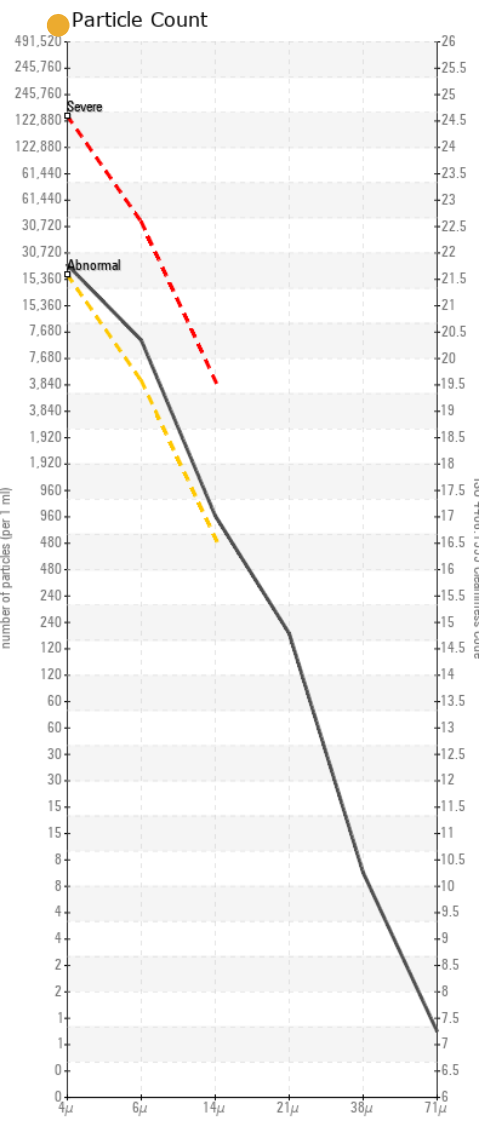
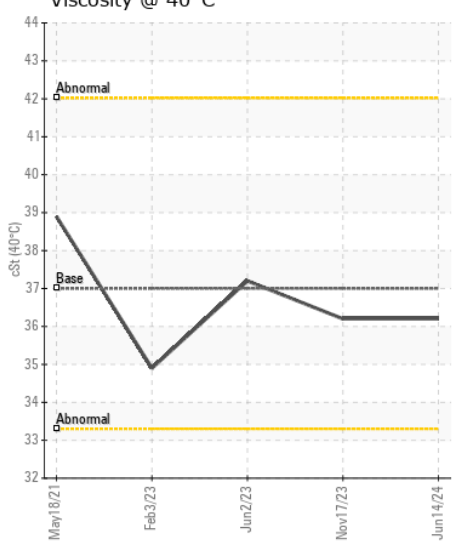
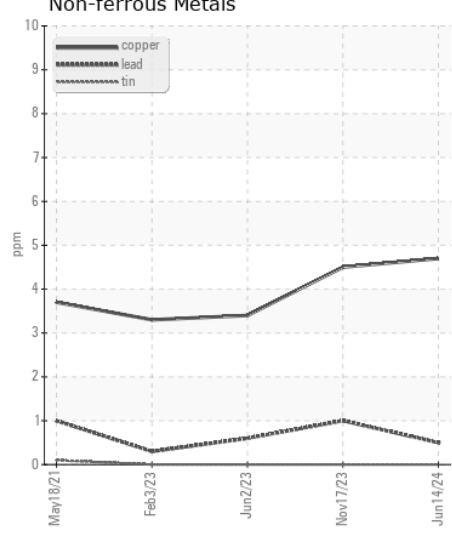
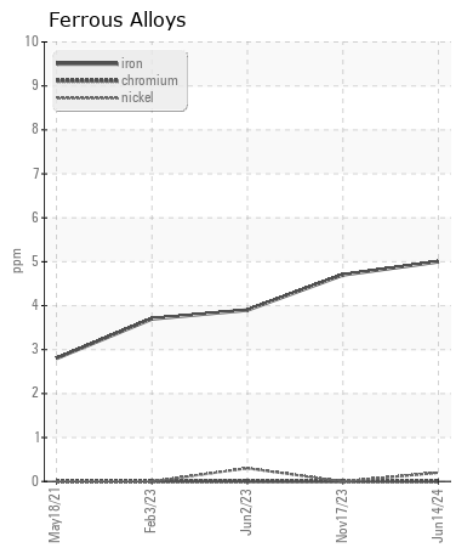
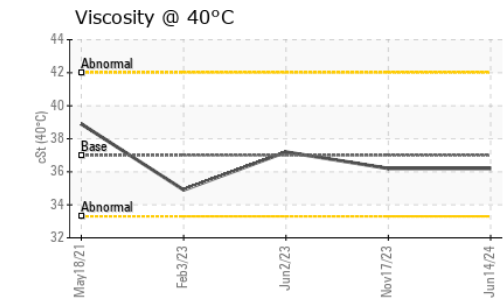
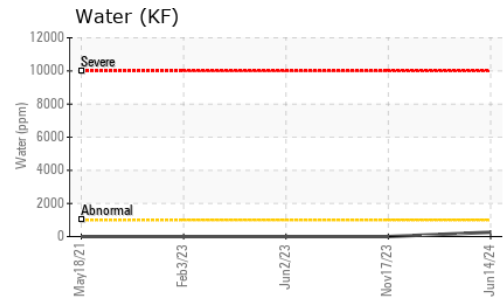
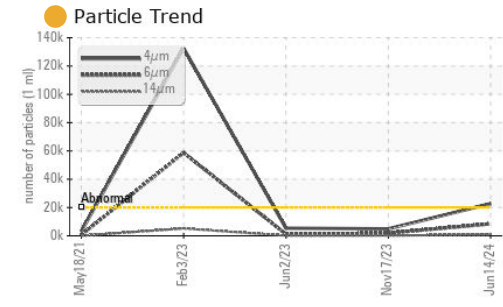
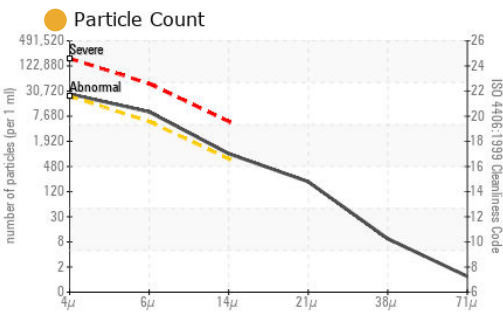
There is a light amount of silt (particulates < 14 microns in size) present in the oil. Free water present.

Silicon	ppm	ASTM D5185(m)	>20	<b>2</b>	3	4
Potassium	ppm	ASTM D5185(m)	>20	<b>2</b>	<1	1
Water	%	ASTM D6304*	>0.1	<b>0.026</b>	---	---
ppm Water	ppm	ASTM D6304*	>1000	<b>263</b>	---	---
Particles >4µm		ASTM D7647	>20000	<b>22764</b>	4934	5368
Particles >6µm		ASTM D7647	>5000	<b>8496</b>	1872	1131
Particles >14µm		ASTM D7647	>640	<b>854</b>	155	80
Particles >21µm		ASTM D7647	>160	<b>183</b>	23	32
Particles >38µm		ASTM D7647	>40	<b>8</b>	2	1
Particles >71µm		ASTM D7647	>10	<b>1</b>	1	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>22/20/17</b>	19/18/14	20/17/13
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>VLITE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual*	NORML	<b>WGOIL</b>	<b>WGOIL</b>	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	<b>1%</b>	.2%	NEG

### FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)		<b>1</b>	2	1
Boron	ppm	ASTM D5185(m)		<b>9</b>	10	10
Barium	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185(m)		<b>4</b>	4	4
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)		<b>62</b>	70	70
Calcium	ppm	ASTM D5185(m)		<b>268</b>	299	300
Phosphorus	ppm	ASTM D5185(m)		<b>384</b>	408	430
Zinc	ppm	ASTM D5185(m)		<b>467</b>	496	467
Sulfur	ppm	ASTM D5185(m)		<b>2155</b>	2270	2292
Visc @ 40°C	cSt	ASTM D7279(m)	37	<b>36.2</b>	36.2	37.2



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0286602  
**Lab Number** : 02643410  
**Unique Number** : 5800949  
**Test Package** : MOB 1 ( Additional Tests: KF, PrtCount )  
**Received** : 21 Jun 2024  
**Tested** : 24 Jun 2024  
**Diagnosed** : 24 Jun 2024 - Kevin Marson

**HIGGS & HIGGS**  
 RR # 4  
 ST THOMAS, ON  
 CA N5P 3S8  
 Contact: Bernie Higgs

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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