



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**LIEBHERR L580 1414-56018**  
Component  
**Front Differential**  
Fluid  
**LIEBHERR GEAR BASIC 90 LS (--- GAL)**

### RECOMMENDATION

No corrective action is recommended at this time. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH06225400</b>	LH06112338	LH06062220
Sample Date		Client Info		<b>30 Jun 2024</b>	06 Mar 2024	05 Jan 2024
Machine Age	hrs	Client Info		<b>17000</b>	15997	15250
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	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	ABNORMAL	NORMAL

### WEAR

The copper level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>800	<b>109</b>	121	57
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	<1	<1
Lead	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>100	<b>▲ 125</b>	▲ 117	55
Tin	ppm	ASTM D5185m	>5	<b>6</b>	6	2
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

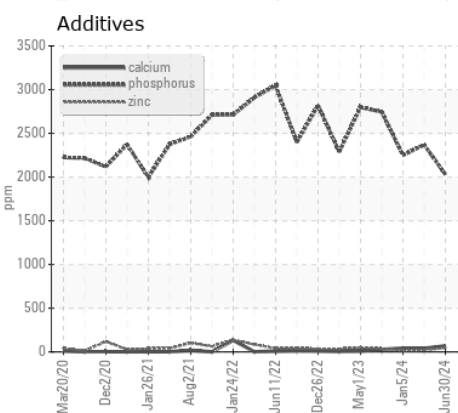
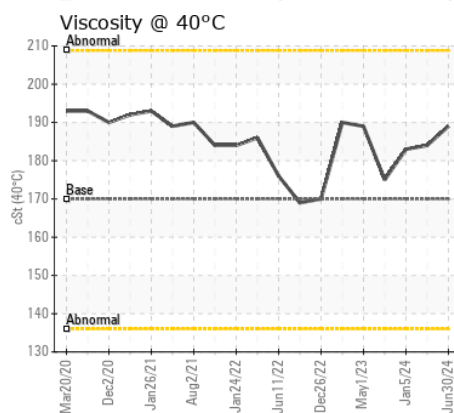
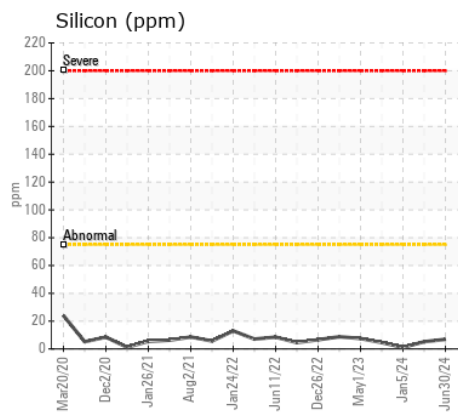
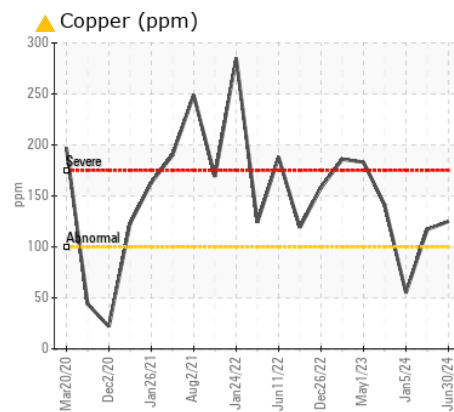
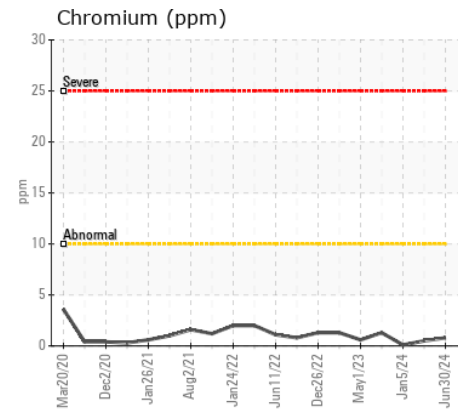
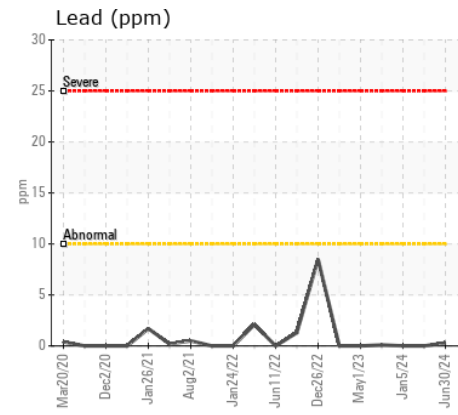
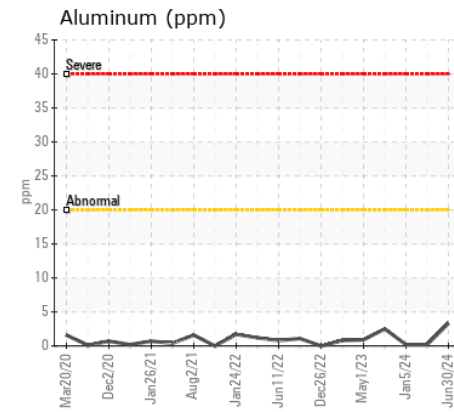
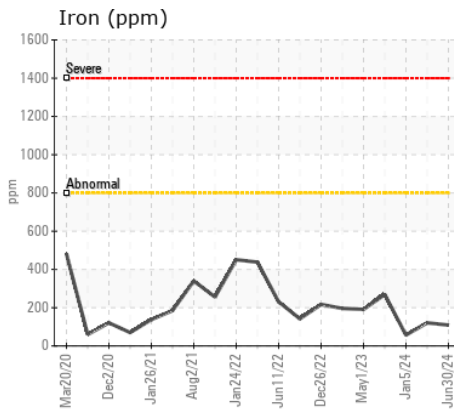
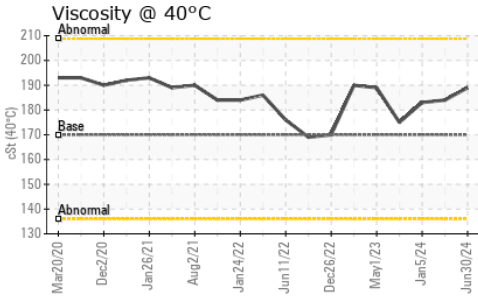
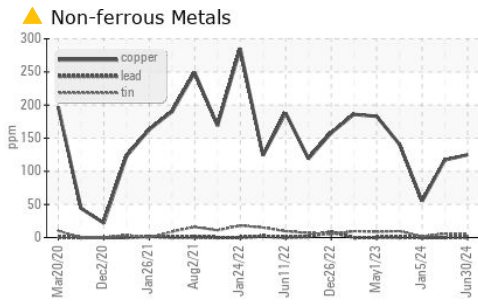
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>75	<b>7</b>	5	1
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	1	0
Water		WC Method	>.2	<b>NEG</b>	NEG	NEG
Silt	scalar	*Visual	NONE	<b>MODER</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	>.2	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<b>0</b>	2	0
Boron	ppm	ASTM D5185m	0	<b>6</b>	0	0
Barium	ppm	ASTM D5185m	0	<b>1</b>	0	0
Molybdenum	ppm	ASTM D5185m	0	<b>1</b>	0	0
Manganese	ppm	ASTM D5185m	0	<b>1</b>	2	1
Magnesium	ppm	ASTM D5185m	<1	<b>1</b>	2	2
Calcium	ppm	ASTM D5185m	<1	<b>70</b>	41	43
Phosphorus	ppm	ASTM D5185m	2143	<b>2030</b>	2369	2250
Zinc	ppm	ASTM D5185m	<1	<b>42</b>	22	16
Sulfur	ppm	ASTM D5185m	23468	<b>25744</b>	33949	33935
Visc @ 40°C	cSt	ASTM D445	170	<b>189</b>	184	183



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : LH06225400

Lab Number : 06225400

Unique Number : 11103597

Test Package : MOB 1

Received : 01 Jul 2024

Tested : 02 Jul 2024

Diagnosed : 03 Jul 2024 - Don Baldridge

VERSO CORP - QUINNESEC MILL

W6791 US HWY 2

QUINNESEC, MI

US 49876

Contact: ERIC LARSON

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T:

F:

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)