



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**116431-1217**  
Component  
**Rear Right Wheel Hub**  
Fluid  
**LIEBHERR GEAR BASIC 90 LS (--- GAL)**

### 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>LH0277748</b>	LH0202729	LH0239233
Sample Date		Client Info		<b>08 Jan 2024</b>	09 May 2023	29 Aug 2022
Machine Age	hrs	Client Info		<b>8104</b>	7133	6053
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>None</b>	None	None
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>650	<b>26</b>	9	8
Chromium	ppm	ASTM D5185(m)	>4	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185(m)	>4	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>25	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>60	<b>6</b>	13	13
Tin	ppm	ASTM D5185(m)	>4	<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 no indication of any contamination in the oil.

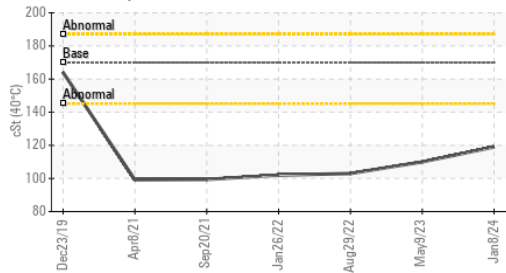
Silicon	ppm	ASTM D5185(m)	>75	<b>1</b>	2	2
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

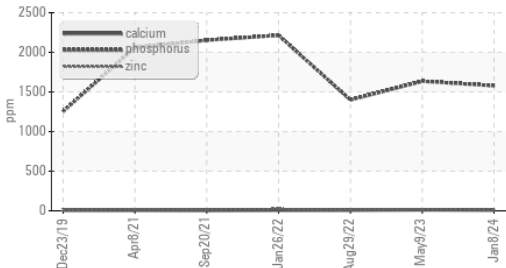
Additive levels indicate the addition of a different brand, or type of oil.  
The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Boron	ppm	ASTM D5185(m)	0	<b>215</b>	262	316
Barium	ppm	ASTM D5185(m)	0	<b>3</b>	4	5
Molybdenum	ppm	ASTM D5185(m)	0	<b>0</b>	<1	0
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	<1	<b>1</b>	5	2
Calcium	ppm	ASTM D5185(m)	<1	<b>8</b>	12	8
Phosphorus	ppm	ASTM D5185(m)	2143	<b>1578</b>	1636	1401
Zinc	ppm	ASTM D5185(m)	<1	<b>15</b>	17	13
Sulfur	ppm	ASTM D5185(m)	23468	<b>22305</b>	22403	21761
Visc @ 40°C	cSt	ASTM D7279(m)	170	<b>119</b>	110	103

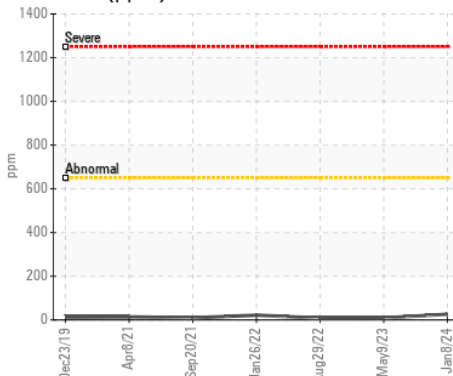
Viscosity @ 40°C



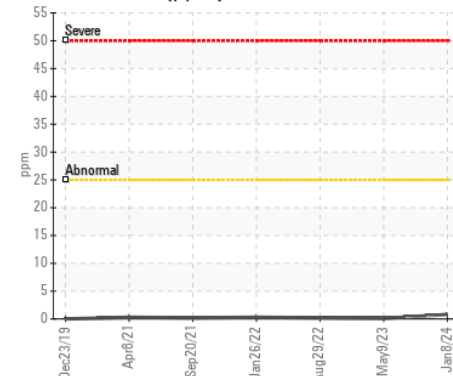
Additives



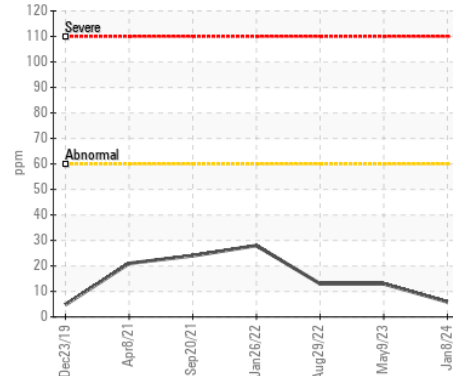
Iron (ppm)



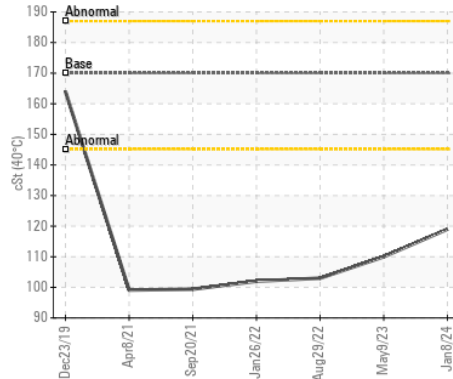
Aluminum (ppm)



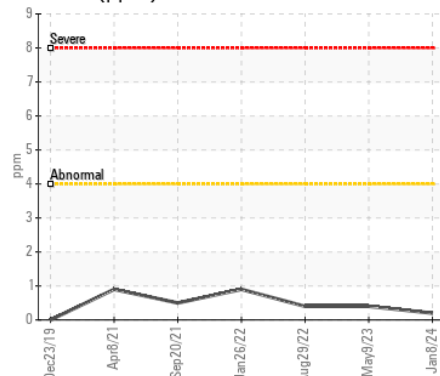
Copper (ppm)



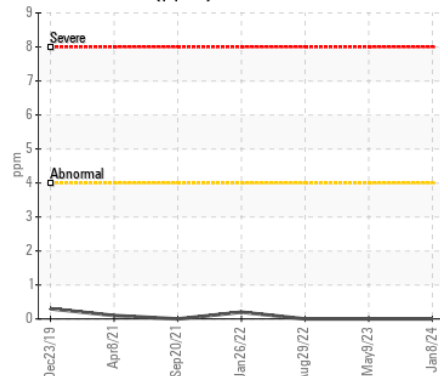
Viscosity @ 40°C



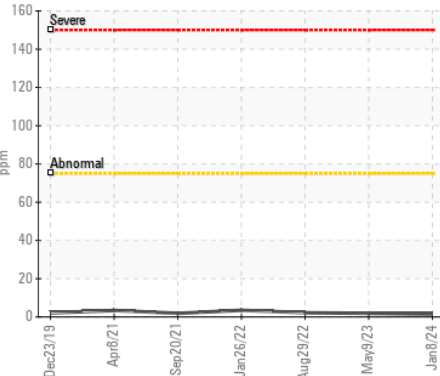
Lead (ppm)



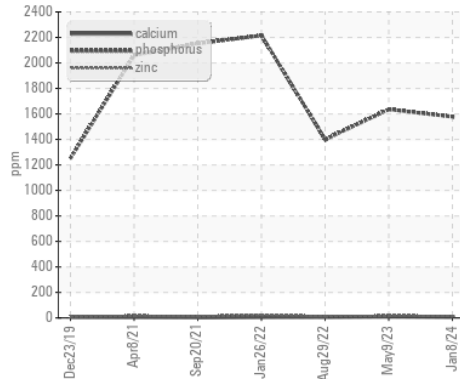
Chromium (ppm)



Silicon (ppm)



Additives



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0277748 **Received** : 23 Jan 2024  
**Lab Number** : 02610674 **Diagnosed** : 23 Jan 2024  
**Unique Number** : 5711760 **Diagnostician** : Wes Davis  
**Test Package** : MOB 1

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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