



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**LIEBHERR A904C 069488-1071**  
Component  
**Swing Drive**  
Fluid  
**GEAR OIL SAE 90 (4 LTR)**

### RECOMMENDATION

We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH</b>	LH0265728	LH0260161
Sample Date		Client Info		<b>19 Apr 2024</b>	19 Oct 2023	28 Apr 2023
Machine Age	hrs	Client Info		<b>8343</b>	7171	6159
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>ABNORMAL</b>	ABNORMAL	NORMAL

### WEAR

Iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184*		<b>0</b>	0	0
Iron	ppm	ASTM D5185(m)	>350	<b>▲ 968</b>	▲ 846	480
Chromium	ppm	ASTM D5185(m)	>15	<b>8</b>	7	4
Nickel	ppm	ASTM D5185(m)	>5	<b>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)	>5	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185(m)	>10	<b>&lt;1</b>	4	3
Copper	ppm	ASTM D5185(m)	>300	<b>54</b>	140	69
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	0	<1
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 moderate concentration of water present in the oil. Free water present.

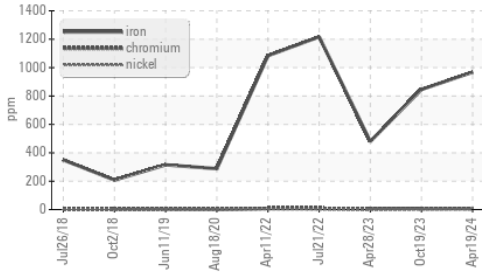
Silicon	ppm	ASTM D5185(m)	>15	<b>3</b>	3	3
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	10
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Silt	scalar	Visual*	NONE	<b>NONE</b>	VLITE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual*	NORML	<b>▲ WGOIL</b>	NORML	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	<b>▲ .5%</b>	NEG	NEG

### FLUID CONDITION

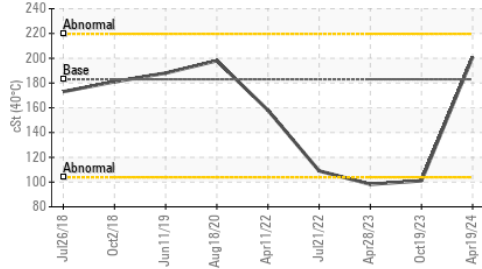
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185(m)		<b>1</b>	<1	<1
Boron	ppm	ASTM D5185(m)	400	<b>46</b>	153	238
Barium	ppm	ASTM D5185(m)	200	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	12	<b>0</b>	<1	<1
Manganese	ppm	ASTM D5185(m)		<b>7</b>	6	4
Magnesium	ppm	ASTM D5185(m)	12	<b>2</b>	2	2
Calcium	ppm	ASTM D5185(m)	150	<b>10</b>	23	13
Phosphorus	ppm	ASTM D5185(m)	1650	<b>2213</b>	1351	1423
Zinc	ppm	ASTM D5185(m)	125	<b>21</b>	23	19
Sulfur	ppm	ASTM D5185(m)	22500	<b>24415</b>	22465	22504
Visc @ 40°C	cSt	ASTM D7279(m)	183	<b>201</b>	101	98.2

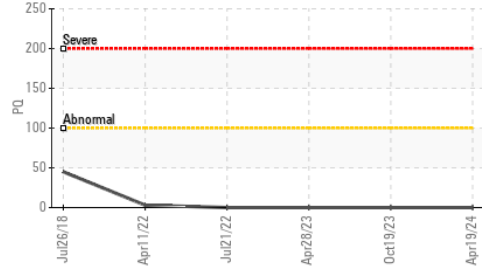
▲ Ferrous Alloys



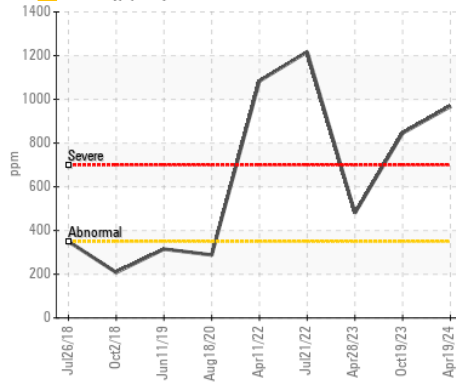
Viscosity @ 40°C



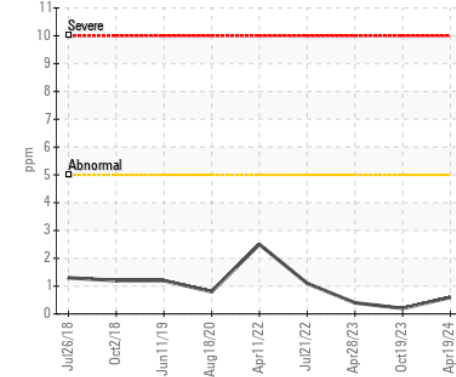
PQ



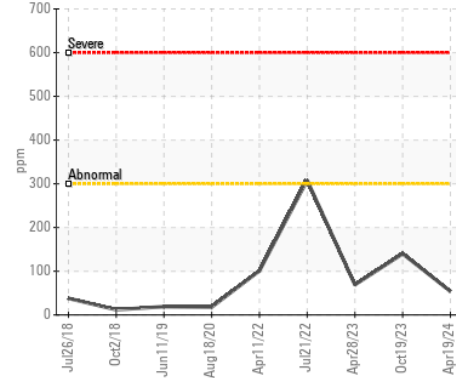
▲ Iron (ppm)



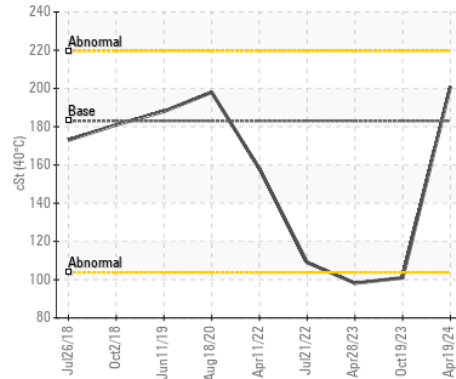
Aluminum (ppm)



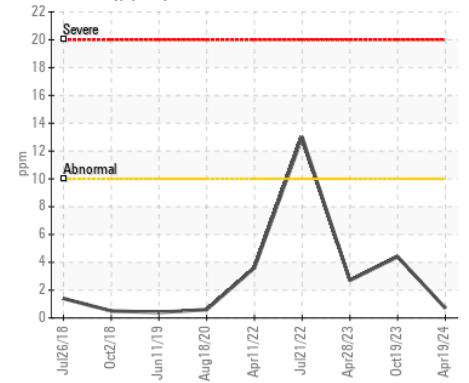
Copper (ppm)



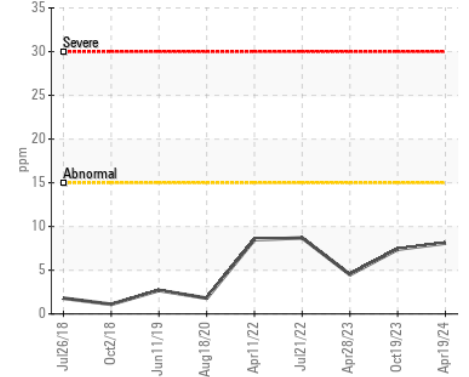
Viscosity @ 40°C



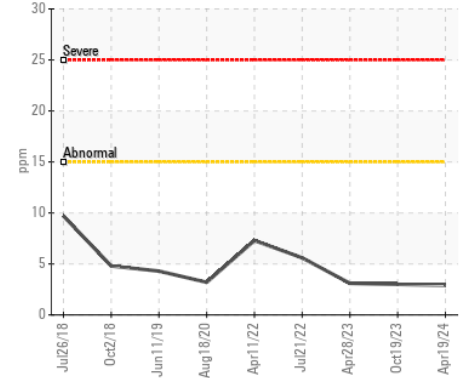
Lead (ppm)



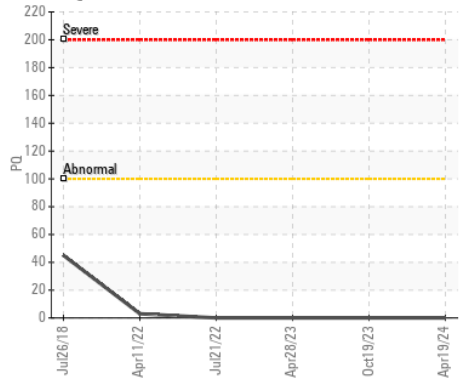
Chromium (ppm)



Silicon (ppm)



PQ



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH **Received** : 29 Apr 2024  
**Lab Number** : 02632027 **Tested** : 30 Apr 2024  
**Unique Number** : 5773180 **Diagnosed** : 30 Apr 2024 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: PQ )

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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