



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**LIEBHERR L580 069442-1762**

Component  
**Diesel Engine**

Fluid  
**SHELL ROTELLA T4 15W40 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0247598</b>	LH0247595	---
Sample Date		Client Info		<b>03 Jan 2024</b>	04 Sep 2023	---
Machine Age	hrs	Client Info		<b>3567</b>	2545	---
Oil Age	hrs	Client Info		<b>0</b>	0	---
Filter Age	hrs	Client Info		<b>0</b>	0	---
Oil Changed		Client Info		<b>N/A</b>	Changed	---
Filter Changed		Client Info		<b>N/A</b>	Changed	---
Sample Status				<b>NORMAL</b>	NORMAL	---

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	<b>3</b>	9	---
Chromium	ppm	ASTM D5185(m)	>5	<b>0</b>	<1	---
Nickel	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	---
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	---
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	<1	---
Aluminum	ppm	ASTM D5185(m)	>15	<b>2</b>	2	---
Lead	ppm	ASTM D5185(m)	>30	<b>&lt;1</b>	6	---
Copper	ppm	ASTM D5185(m)	>125	<b>2</b>	63	---
Tin	ppm	ASTM D5185(m)	>5	<b>0</b>	<1	---
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	---
White Metal	scalar	Visual*	NONE	<b>VLITE</b>	---	---
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---

### CONTAMINATION

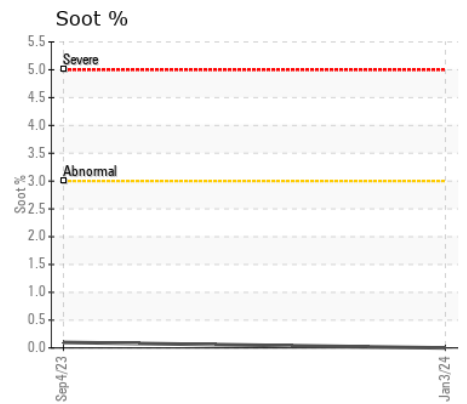
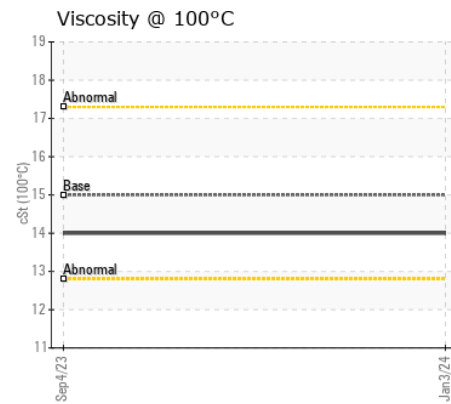
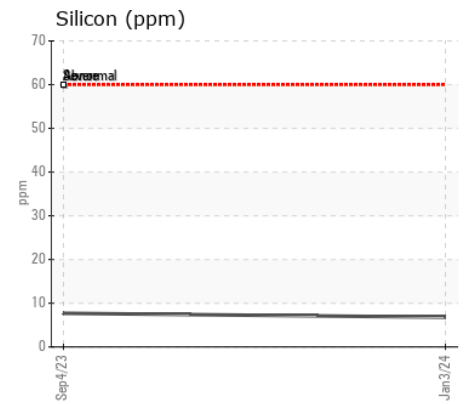
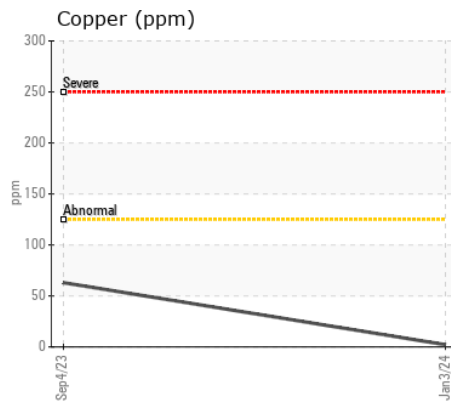
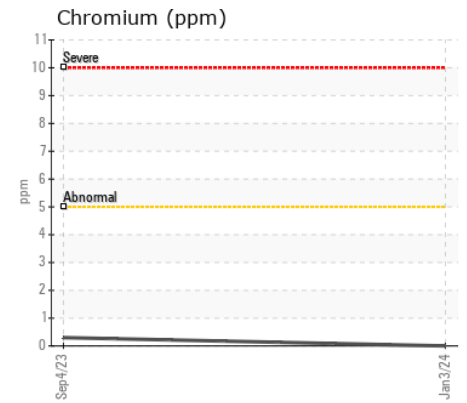
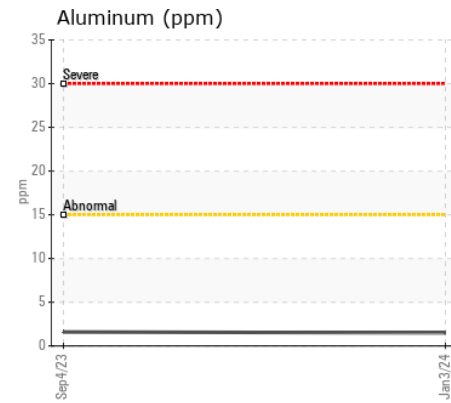
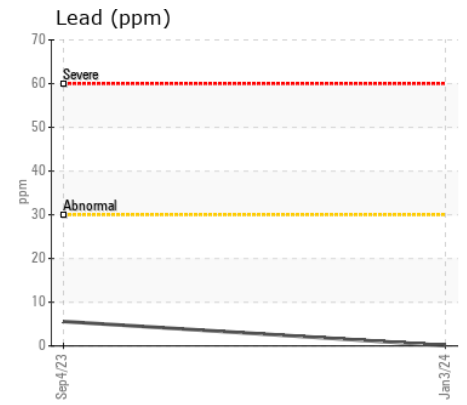
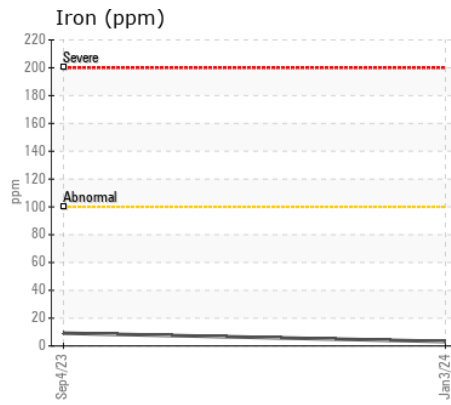
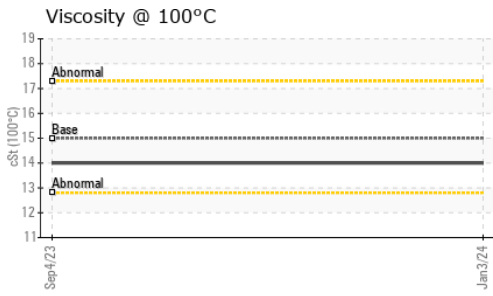
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	<b>7</b>	8	---
Potassium	ppm	ASTM D5185(m)	>20	<b>6</b>	6	---
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	---
Water		WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	ASTM D7844*	>3	<b>0</b>	0.1	---
Nitration	Abs/cm	ASTM D7624*	>20	<b>7.5</b>	9.5	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>21.1</b>	23.5	---
Silt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Debris	scalar	Visual*	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Appearance	scalar	Visual*	NORML	<b>NORML</b>	---	---
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	---

### FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)		<b>2</b>	4	---
Boron	ppm	ASTM D5185(m)		<b>138</b>	55	---
Barium	ppm	ASTM D5185(m)		<b>0</b>	2	---
Molybdenum	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	---
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	---
Magnesium	ppm	ASTM D5185(m)		<b>17</b>	34	---
Calcium	ppm	ASTM D5185(m)		<b>2191</b>	2234	---
Phosphorus	ppm	ASTM D5185(m)		<b>963</b>	897	---
Zinc	ppm	ASTM D5185(m)		<b>1124</b>	1147	---
Sulfur	ppm	ASTM D5185(m)		<b>3064</b>	2596	---
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>17.0</b>	20.4	---
Visc @ 100°C	cSt	ASTM D7279(m)	15	<b>14.0</b>	14.0	---



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0247598 **Received** : 16 Jan 2024  
**Lab Number** : 02608968 **Diagnosed** : 16 Jan 2024  
**Unique Number** : 5710054 **Diagnostician** : Wes Davis  
**Test Package** : MOBCE ( Additional Tests: Visual )

**HUBERT ET FILS INC**  
 1012 CHEMIN DE PARC INDUSTRIEL  
 BOIS-FRANC, QC  
 CA J9E 3A9  
 Contact: Service Manager

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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F: