



# LIEBHERR

## OIL ANALYSIS REPORT

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



Area  
**[597028]**  
Machine Id  
**LIEBHERR R920 056505-1705**  
Component  
**Diesel Engine**  
Fluid  
**LIEBHERR MOTOROIL 5W30 (20 LTR)**

### RECOMMENDATION

We advise that you check for visible metal particles in the oil. 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>LH0269674</b>	---	---
Sample Date		Client Info		<b>08 Feb 2024</b>	---	---
Machine Age	hrs	Client Info		<b>528</b>	---	---
Oil Age	hrs	Client Info		<b>0</b>	---	---
Filter Age	hrs	Client Info		<b>0</b>	---	---
Oil Changed		Client Info		<b>Changed</b>	---	---
Filter Changed		Client Info		<b>N/A</b>	---	---
Sample Status				<b>ABNORMAL</b>	---	---

### WEAR

Light concentration of visible metal present.

Iron	ppm	ASTM D5185(m)	>100	<b>24</b>	---	---
Chromium	ppm	ASTM D5185(m)	>5	<b>1</b>	---	---
Nickel	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	---	---
Titanium	ppm	ASTM D5185(m)		<b>0</b>	---	---
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185(m)	>15	<b>4</b>	---	---
Lead	ppm	ASTM D5185(m)	>30	<b>2</b>	---	---
Copper	ppm	ASTM D5185(m)	>125	<b>43</b>	---	---
Tin	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	---	---
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	---	---
White Metal	scalar	Visual*	NONE	<b>▲ LIGHT</b>	---	---
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---

### CONTAMINATION

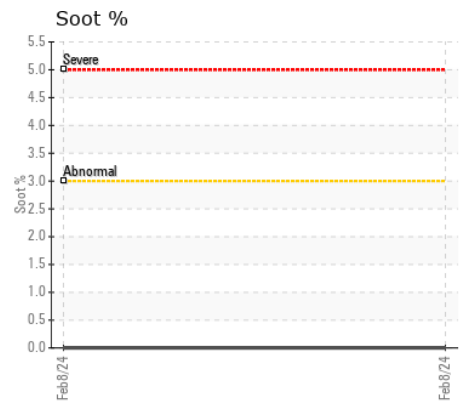
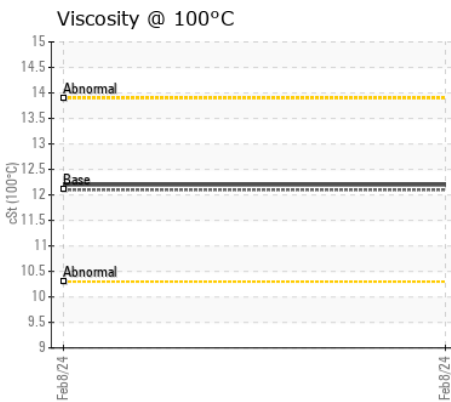
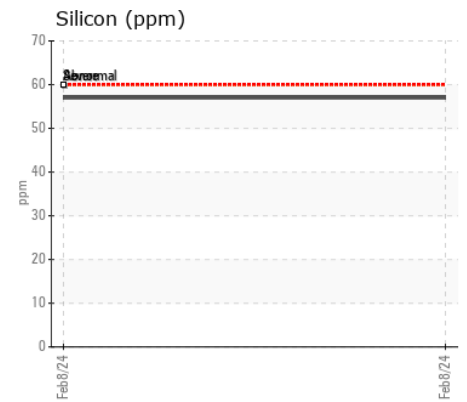
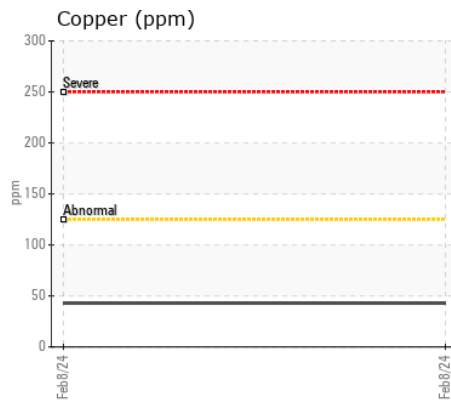
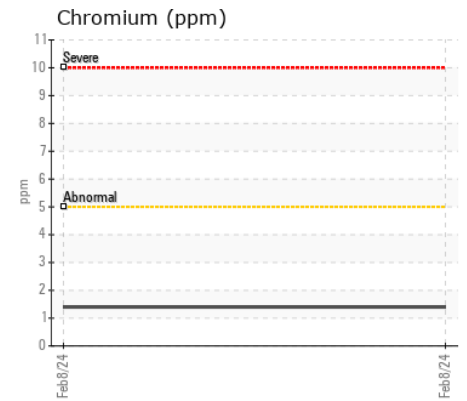
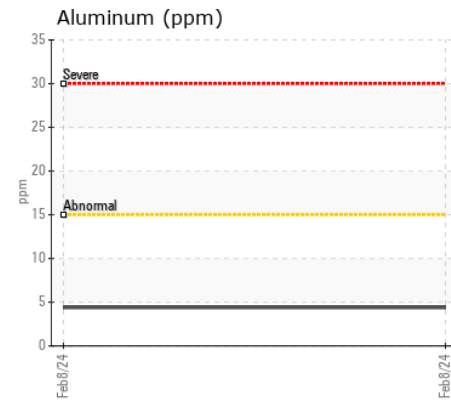
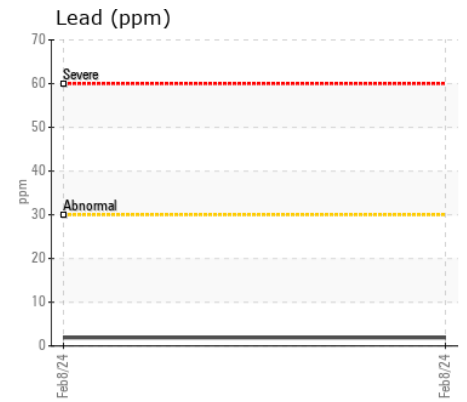
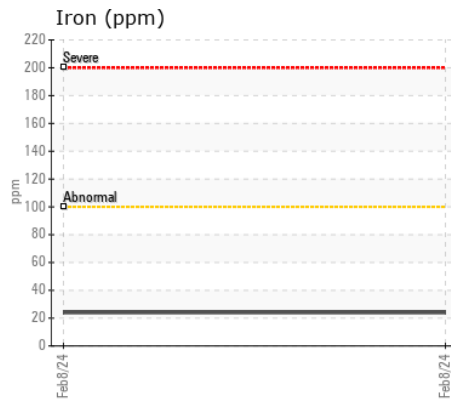
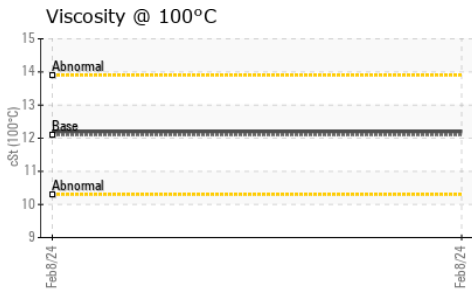
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	<b>57</b>	---	---
Potassium	ppm	ASTM D5185(m)	>20	<b>1</b>	---	---
Fuel		WC Method	>5	<b>&lt;1.0</b>	---	---
Water		WC Method	>0.2	<b>NEG</b>	---	---
Glycol		WC Method		<b>NEG</b>	---	---
Soot %	%	ASTM D7844*	>3	<b>0</b>	---	---
Nitration	Abs/cm	ASTM D7624*	>20	<b>10.3</b>	---	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>35.9</b>	---	---
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>	---	---
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	---	---

### FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)		<b>5</b>	---	---
Boron	ppm	ASTM D5185(m)	236	<b>99</b>	---	---
Barium	ppm	ASTM D5185(m)	0	<b>5</b>	---	---
Molybdenum	ppm	ASTM D5185(m)	0	<b>45</b>	---	---
Manganese	ppm	ASTM D5185(m)	<1	<b>5</b>	---	---
Magnesium	ppm	ASTM D5185(m)	25	<b>746</b>	---	---
Calcium	ppm	ASTM D5185(m)	4298	<b>1845</b>	---	---
Phosphorus	ppm	ASTM D5185(m)	1020	<b>788</b>	---	---
Zinc	ppm	ASTM D5185(m)	1164	<b>905</b>	---	---
Sulfur	ppm	ASTM D5185(m)	2460	<b>2204</b>	---	---
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>43.4</b>	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	12.1	<b>12.2</b>	---	---



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0269674  
**Lab Number** : 02616602  
**Unique Number** : 5733712  
**Test Package** : MOB 1 ( Additional Tests: BottomAnalysis, FILTERPATCH, Visual )

**HAYSHAKERS BOBCAT SERVICES**  
 501 761 HWY  
 LESLIEVILLE, AB  
 CA T0M 1H0  
 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: