



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR 34
Component
Lower Diesel Engine
Fluid
SAE 5W30 (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

WEAR

Aluminum, chromium and tin ppm levels are abnormal. Ring wear is indicated. Piston wear is indicated. Slide bearing wear is indicated.

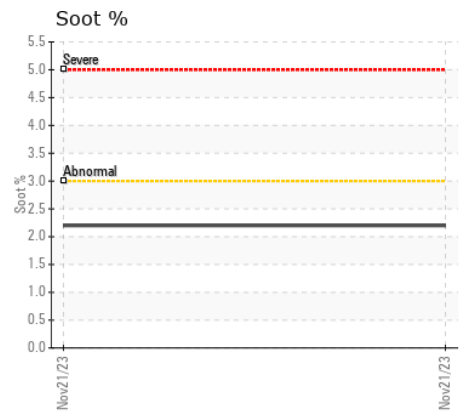
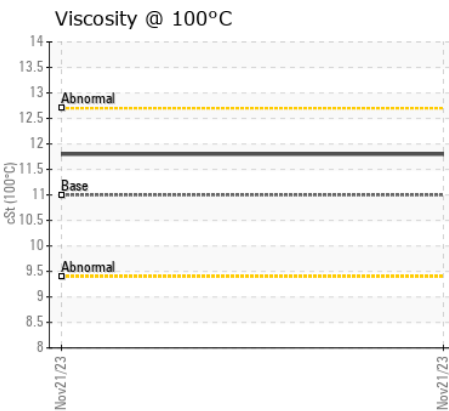
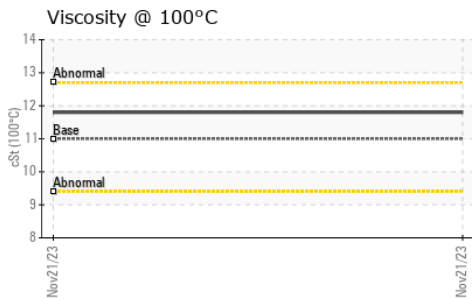
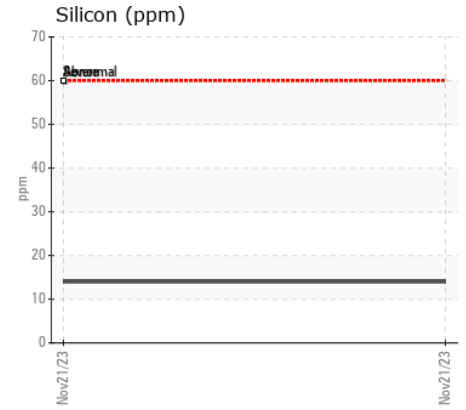
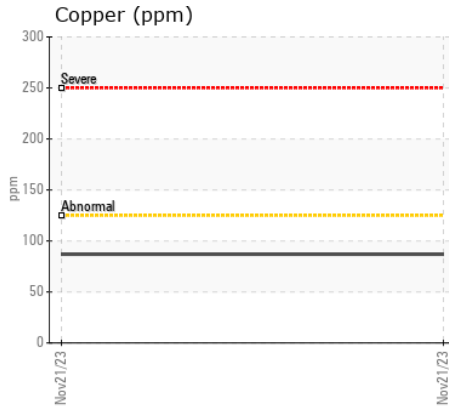
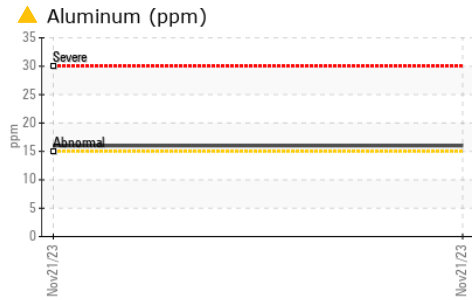
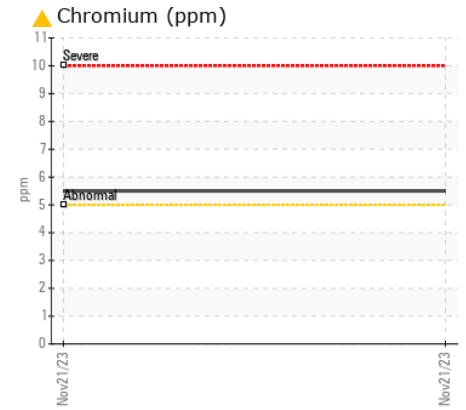
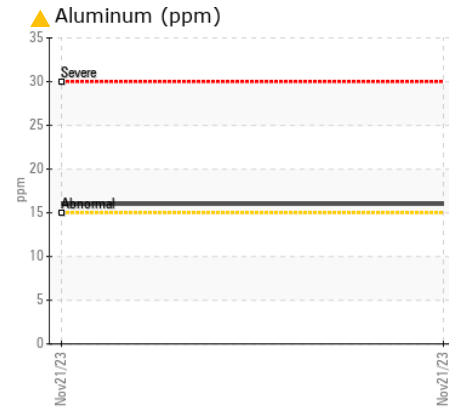
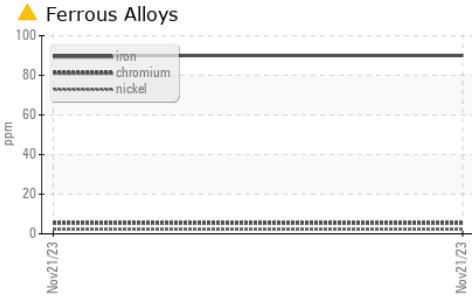
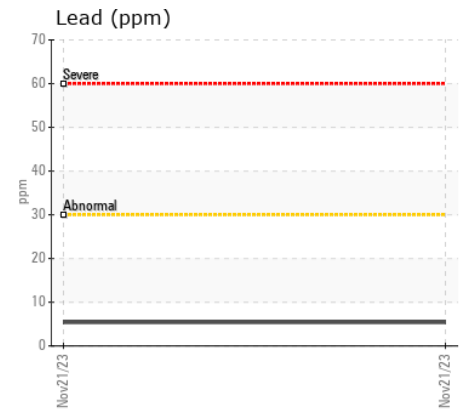
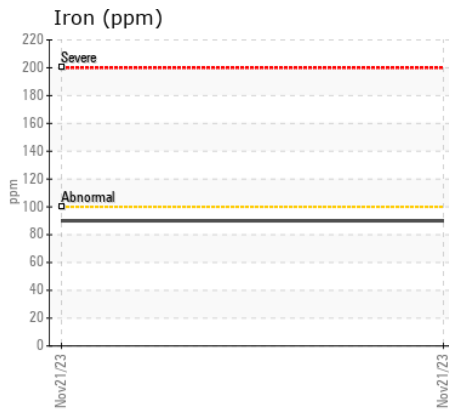
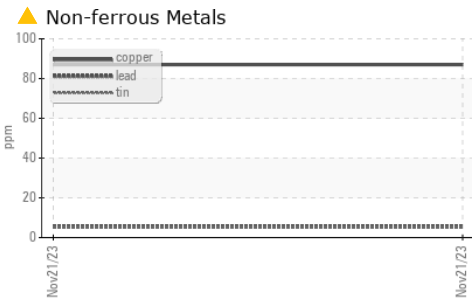
CONTAMINATION

There is no indication of any contamination in the oil.

FLUID CONDITION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0685984	---	---
Sample Date		Client Info		21 Nov 2023	---	---
Machine Age	hrs	Client Info		7328	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ABNORMAL	---	---
<hr/>						
Iron	ppm	ASTM D5185(m)	>100	90	---	---
Chromium	ppm	ASTM D5185(m)	>5	▲ 6	---	---
Nickel	ppm	ASTM D5185(m)	>5	2	---	---
Titanium	ppm	ASTM D5185(m)		0	---	---
Silver	ppm	ASTM D5185(m)	>3	0	---	---
Aluminum	ppm	ASTM D5185(m)	>15	▲ 16	---	---
Lead	ppm	ASTM D5185(m)	>30	5	---	---
Copper	ppm	ASTM D5185(m)	>125	87	---	---
Tin	ppm	ASTM D5185(m)	>5	▲ 5	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
<hr/>						
Silicon	ppm	ASTM D5185(m)	>60	14	---	---
Potassium	ppm	ASTM D5185(m)	>20	2	---	---
Fuel		WC Method	>5	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	ASTM D7844*	>3	2.2	---	---
Nitration	Abs/cm	ASTM D7624*	>20	12.7	---	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	26.7	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	---	---
Emulsified Water	scalar	Visual*	>0.2	NEG	---	---
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Sodium	ppm	ASTM D5185(m)		6	---	---
Boron	ppm	ASTM D5185(m)		20	---	---
Barium	ppm	ASTM D5185(m)		0	---	---
Molybdenum	ppm	ASTM D5185(m)		70	---	---
Manganese	ppm	ASTM D5185(m)		<1	---	---
Magnesium	ppm	ASTM D5185(m)		1201	---	---
Calcium	ppm	ASTM D5185(m)		1003	---	---
Phosphorus	ppm	ASTM D5185(m)		1082	---	---
Zinc	ppm	ASTM D5185(m)		1325	---	---
Sulfur	ppm	ASTM D5185(m)		2694	---	---
Oxidation	Abs/.1mm	ASTM D7414*	>25	21.8	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	11.0	11.8	---	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0685984 **Received** : 26 Feb 2024
Lab Number : 02617982 **Tested** : 26 Feb 2024
Unique Number : 5735092 **Diagnosed** : 26 Feb 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: Visual)

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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.