



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR 40
Component
Lower Diesel Engine
Fluid
SAE 5W20 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0685977	WC0685967	---
Sample Date		Client Info		04 Oct 2023	05 Sep 2023	---
Machine Age	hrs	Client Info		3981	10250	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		N/A	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	32	8	---
Chromium	ppm	ASTM D5185(m)	>5	2	<1	---
Nickel	ppm	ASTM D5185(m)	>5	<1	0	---
Titanium	ppm	ASTM D5185(m)		0	0	---
Silver	ppm	ASTM D5185(m)	>3	0	<1	---
Aluminum	ppm	ASTM D5185(m)	>15	9	1	---
Lead	ppm	ASTM D5185(m)	>30	1	<1	---
Copper	ppm	ASTM D5185(m)	>125	3	1	---
Tin	ppm	ASTM D5185(m)	>5	<1	0	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
White Metal	scalar	Visual*	NONE	NONE	VLITE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---

CONTAMINATION

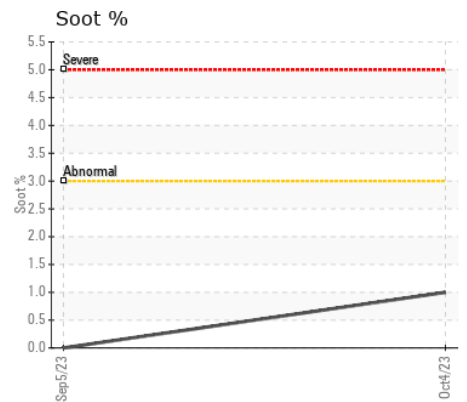
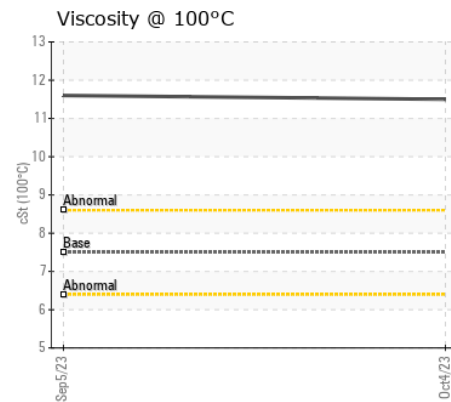
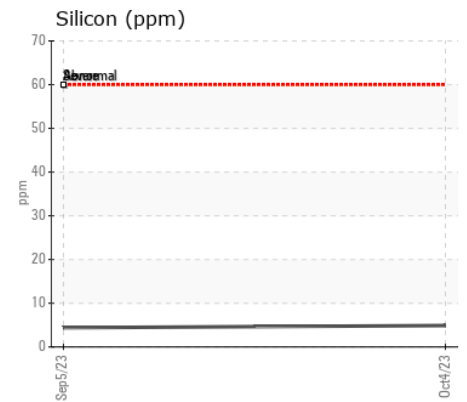
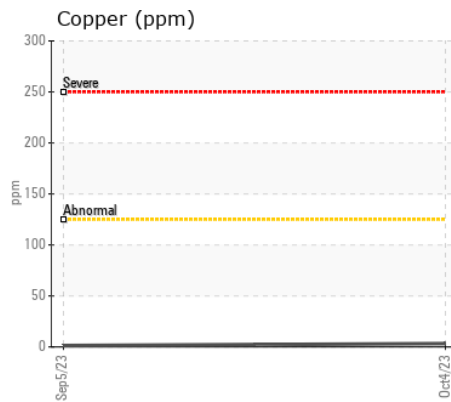
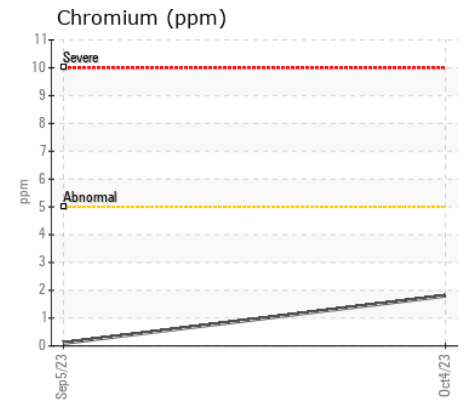
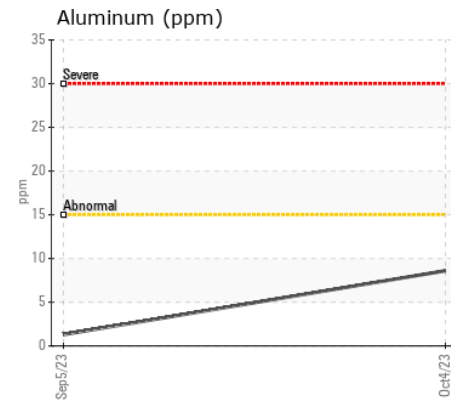
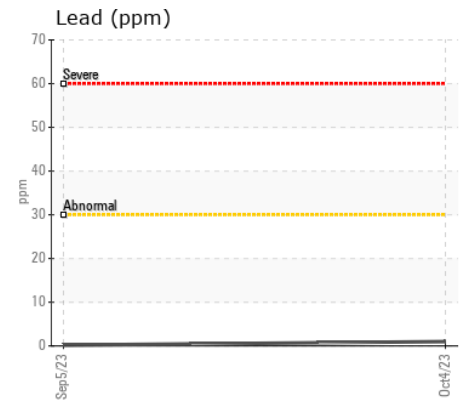
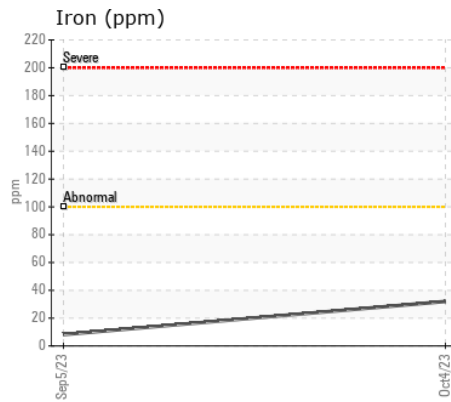
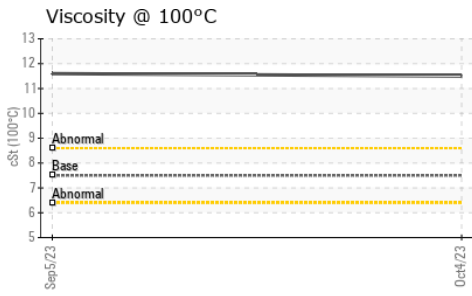
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	5	4	---
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	ASTM D7844*	>3	1	0	---
Nitration	Abs/cm	ASTM D7624*	>20	9.6	9.7	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	21.1	20.6	---
Silt	scalar	Visual*	NONE	VLITE	NONE	---
Debris	scalar	Visual*	NONE	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	---

FLUID CONDITION

Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		5	7	---
Boron	ppm	ASTM D5185(m)		18	32	---
Barium	ppm	ASTM D5185(m)		0	<1	---
Molybdenum	ppm	ASTM D5185(m)		61	61	---
Manganese	ppm	ASTM D5185(m)		0	0	---
Magnesium	ppm	ASTM D5185(m)		1064	1105	---
Calcium	ppm	ASTM D5185(m)		894	869	---
Phosphorus	ppm	ASTM D5185(m)		1041	1035	---
Zinc	ppm	ASTM D5185(m)		1193	1234	---
Sulfur	ppm	ASTM D5185(m)		3579	2810	---
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.9	18.4	---
Visc @ 100°C	cSt	ASTM D7279(m)	7.5	11.5	11.6	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0685977 **Received** : 26 Feb 2024
Lab Number : 02617986 **Tested** : 26 Feb 2024
Unique Number : 5735096 **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.