



# OIL ANALYSIS REPORT

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

Machine Id  
**LIEBHERR LTR1100 liebherr ltr1100 #33 (S/N 074946)**

Component  
**Hydraulic System**  
 Fluid  
 {not provided} (--- GAL)

## RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>PE0003204</b>	---	---
Sample Date		Client Info		<b>09 Jul 2024</b>	---	---
Machine Age	hrs	Client Info		<b>16453</b>	---	---
Oil Age	hrs	Client Info		<b>5000</b>	---	---
Filter Age	hrs	Client Info		<b>500</b>	---	---
Oil Changed		Client Info		<b>N/A</b>	---	---
Filter Changed		Client Info		<b>N/A</b>	---	---
Sample Status				<b>ABNORMAL</b>	---	---

## WEAR

All component wear rates are normal.

Test	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		<b>20</b>	---	---
Iron	ppm	ASTM D5185m	>30	<b>4</b>	---	---
Chromium	ppm	ASTM D5185m	>10	<b>2</b>	---	---
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	---	---
Titanium	ppm	ASTM D5185m		<b>0</b>	---	---
Silver	ppm	ASTM D5185m		<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m	>4	<b>0</b>	---	---
Lead	ppm	ASTM D5185m	>22	<b>0</b>	---	---
Copper	ppm	ASTM D5185m	>35	<b>1</b>	---	---
Tin	ppm	ASTM D5185m	>4	<b>0</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	---	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---

## CONTAMINATION

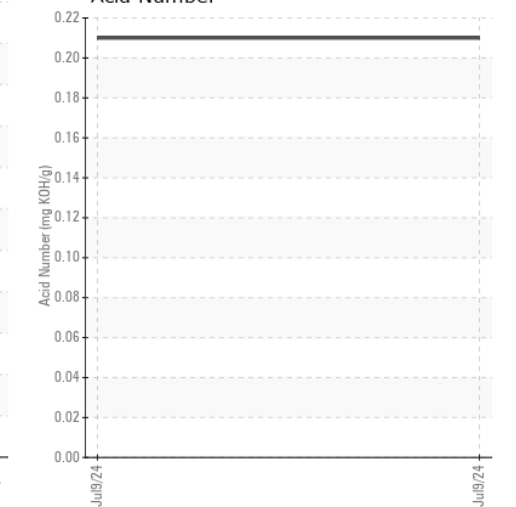
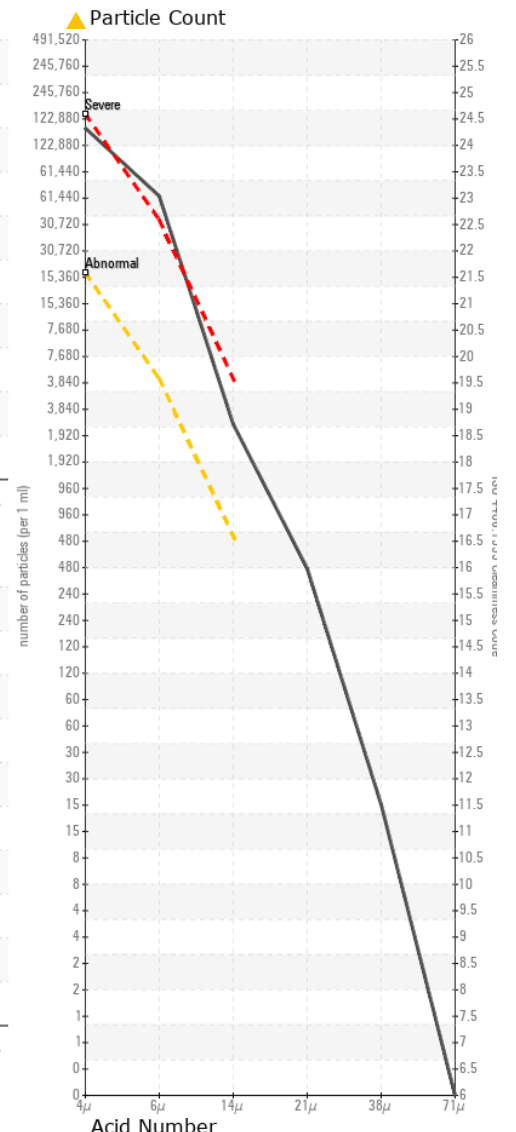
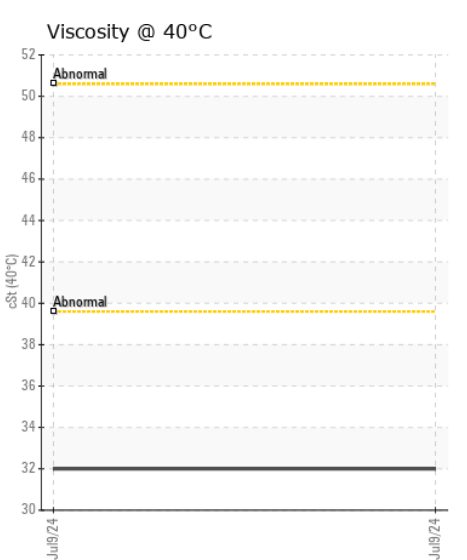
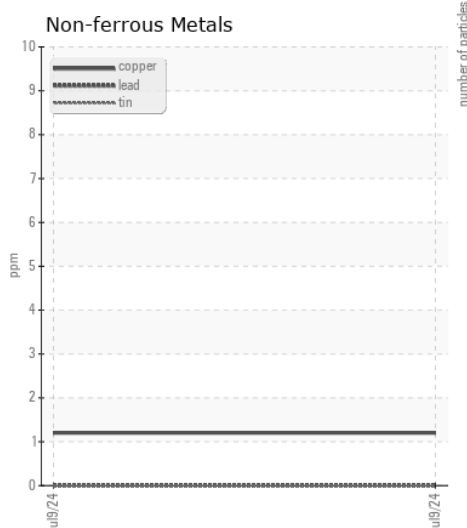
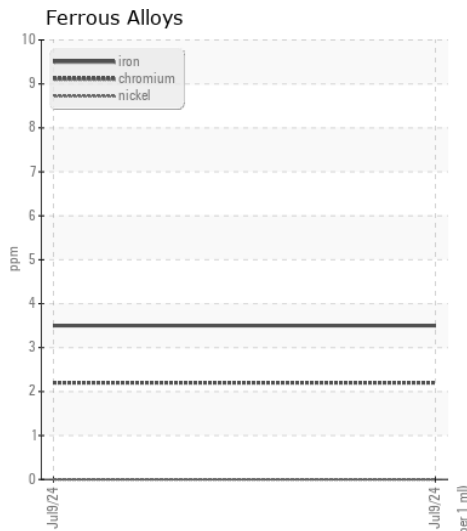
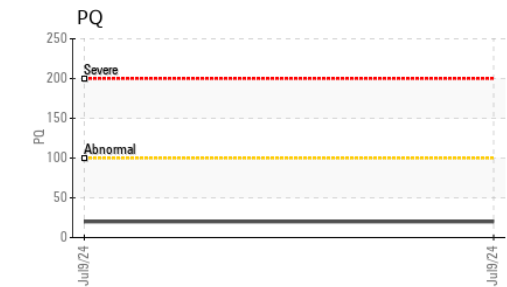
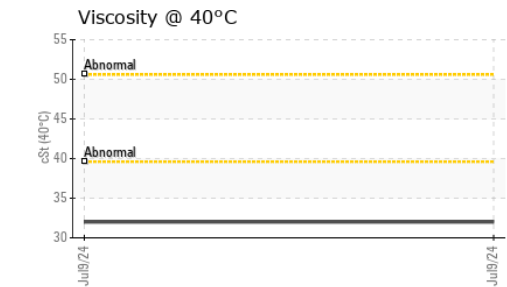
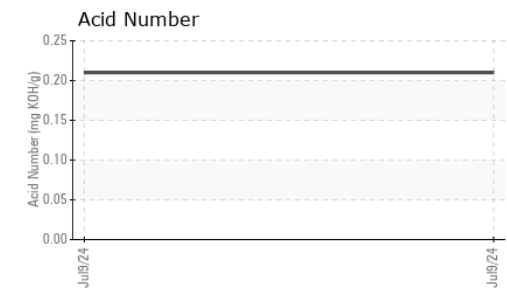
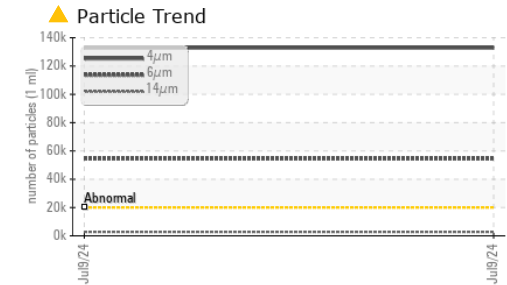
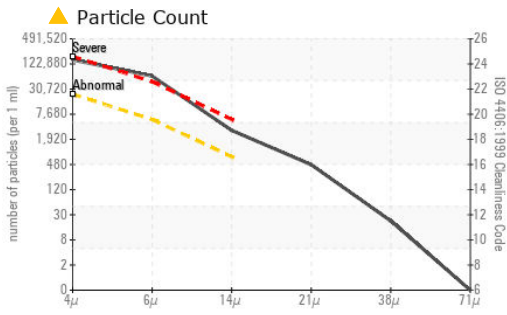
There is a high amount of particulates present in the oil.

Silicon	ppm	ASTM D5185m	>15	<b>3</b>	---	---
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	---	---
Water		WC Method	>0.1	<b>NEG</b>	---	---
Particles >4µm		ASTM D7647	>20000	<b>▲ 132821</b>	---	---
Particles >6µm		ASTM D7647	>5000	<b>▲ 54499</b>	---	---
Particles >14µm		ASTM D7647	>640	<b>▲ 2758</b>	---	---
Particles >21µm		ASTM D7647	>160	<b>▲ 417</b>	---	---
Particles >38µm		ASTM D7647	>40	<b>19</b>	---	---
Particles >71µm		ASTM D7647	>10	<b>0</b>	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>▲ 24/23/19</b>	---	---
Silt	scalar	*Visual	NONE	<b>LIGHT</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	>0.1	<b>NEG</b>	---	---

## FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>3</b>	---	---
Boron	ppm	ASTM D5185m		<b>19</b>	---	---
Barium	ppm	ASTM D5185m		<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m		<b>0</b>	---	---
Manganese	ppm	ASTM D5185m		<b>0</b>	---	---
Magnesium	ppm	ASTM D5185m		<b>2</b>	---	---
Calcium	ppm	ASTM D5185m		<b>85</b>	---	---
Phosphorus	ppm	ASTM D5185m		<b>276</b>	---	---
Zinc	ppm	ASTM D5185m		<b>280</b>	---	---
Sulfur	ppm	ASTM D5185m		<b>1059</b>	---	---
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.21</b>	---	---
Visc @ 40°C	cSt	ASTM D445		<b>32.0</b>	---	---



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PE0003204 **Received** : 11 Jul 2024  
**Lab Number** : 06233168 **Tested** : 12 Jul 2024  
**Unique Number** : 11116661 **Diagnosed** : 12 Jul 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: ICP, KV40, PQ, PrtCount, SCREEN )

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 F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)