



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Machine Id
LIEBHERR LRB18 111114
Component
Hydraulic System
Fluid
AW HYDRAULIC OIL ISO 46 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LHMC155989	---	---
Sample Date		Client Info		21 May 2024	---	---
Machine Age	hrs	Client Info		487	---	---
Oil Age	hrs	Client Info		487	---	---
Filter Age	hrs	Client Info		487	---	---
Oil Changed		Client Info		Not Changd	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ATTENTION	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	<1	---	---
Chromium	ppm	ASTM D5185m	>10	<1	---	---
Nickel	ppm	ASTM D5185m	>10	0	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m		0	---	---
Aluminum	ppm	ASTM D5185m	>10	2	---	---
Lead	ppm	ASTM D5185m	>10	<1	---	---
Copper	ppm	ASTM D5185m	>75	7	---	---
Tin	ppm	ASTM D5185m	>10	<1	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

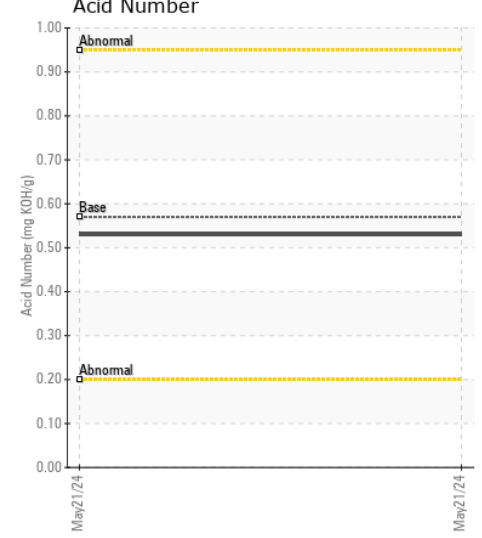
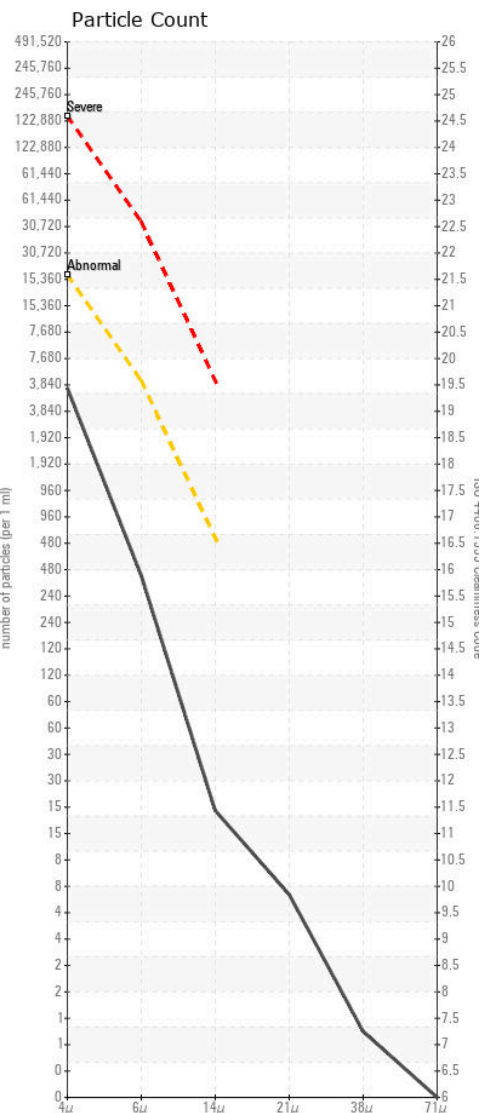
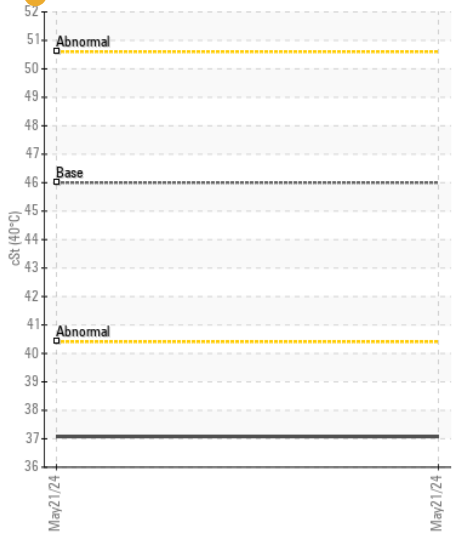
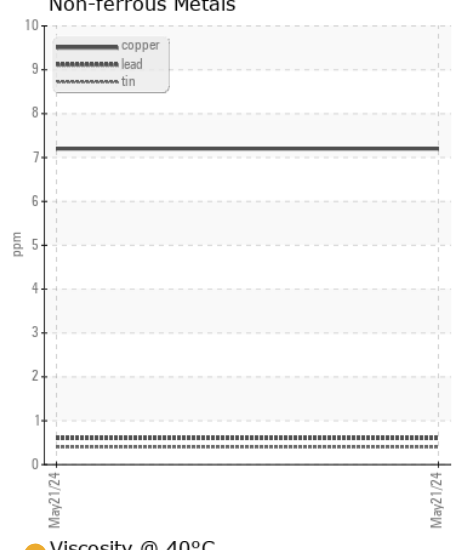
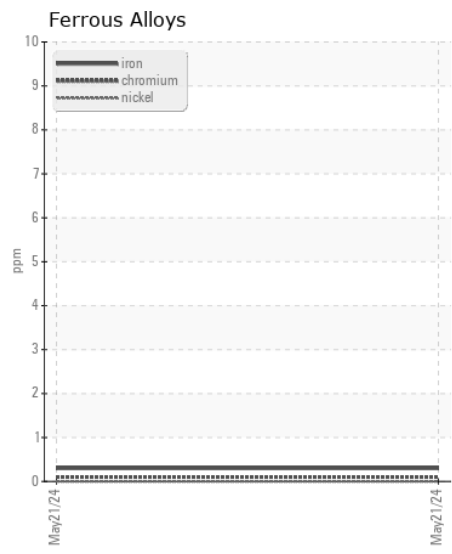
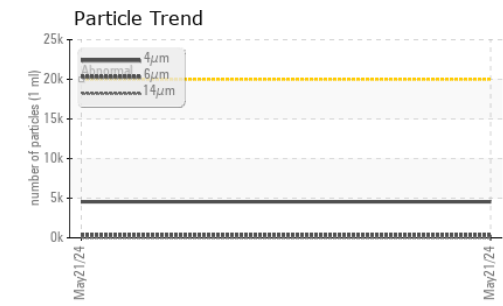
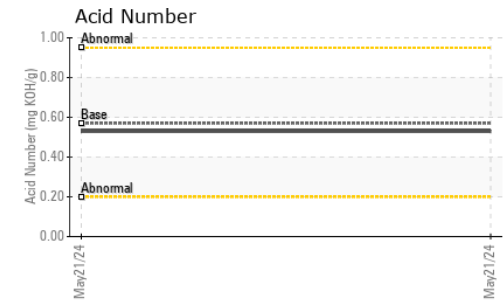
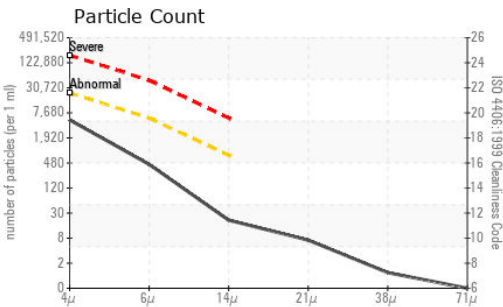
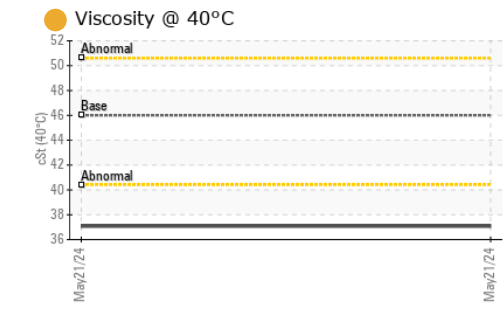
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<1	---	---
Potassium	ppm	ASTM D5185m	>20	2	---	---
Water		WC Method	>0.1	NEG	---	---
Particles >4µm		ASTM D7647	>20000	4546	---	---
Particles >6µm		ASTM D7647	>5000	390	---	---
Particles >14µm		ASTM D7647	>640	18	---	---
Particles >21µm		ASTM D7647	>160	6	---	---
Particles >38µm		ASTM D7647	>40	1	---	---
Particles >71µm		ASTM D7647	>10	0	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	19/16/11	---	---
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	>0.1	NEG	---	---

FLUID CONDITION

The oil viscosity is lower than normal. Confirm oil type. The AN level is acceptable for this fluid.

Sodium	ppm	ASTM D5185m		0	---	---
Boron	ppm	ASTM D5185m	5	0	---	---
Barium	ppm	ASTM D5185m	5	<1	---	---
Molybdenum	ppm	ASTM D5185m	5	<1	---	---
Manganese	ppm	ASTM D5185m		0	---	---
Magnesium	ppm	ASTM D5185m	25	1	---	---
Calcium	ppm	ASTM D5185m	200	91	---	---
Phosphorus	ppm	ASTM D5185m	300	286	---	---
Zinc	ppm	ASTM D5185m	370	361	---	---
Sulfur	ppm	ASTM D5185m	2500	997	---	---
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	0.53	---	---
Visc @ 40°C	cSt	ASTM D445	46	37.08	---	---



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LHMC155989 **Received** : 30 May 2024
Lab Number : 06195356 **Tested** : 05 Jun 2024
Unique Number : 11057479 **Diagnosed** : 05 Jun 2024 - Don Baldrige
Test Package : MOB 2

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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)