



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
[AMG RESOURCES]
Machine Id
LIEBHERR LH40M 124711-1215
Component
Hydraulic System
Fluid
LIEBHERR HYDRAULIC HVI (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LHMC155857	LH0253933	LH0253918
Sample Date		Client Info		20 Dec 2023	26 Sep 2023	12 Jul 2023
Machine Age	hrs	Client Info		4494	4000	3502
Oil Age	hrs	Client Info		4494	0	0
Filter Age	hrs	Client Info		500	0	500
Oil Changed		Client Info		N/A	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>60	35	22	16
Chromium	ppm	ASTM D5185m	>40	<1	0	0
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>5	2	0	<1
Lead	ppm	ASTM D5185m	>5	1	<1	0
Copper	ppm	ASTM D5185m	>15	5	2	3
Tin	ppm	ASTM D5185m	>5	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

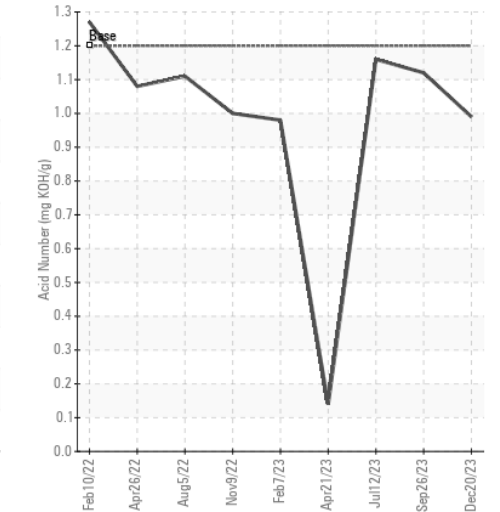
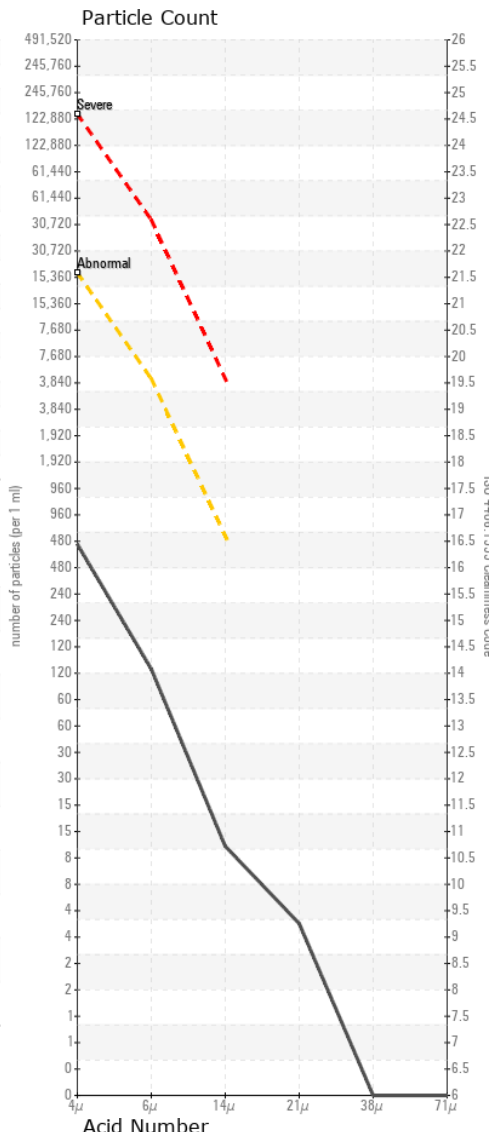
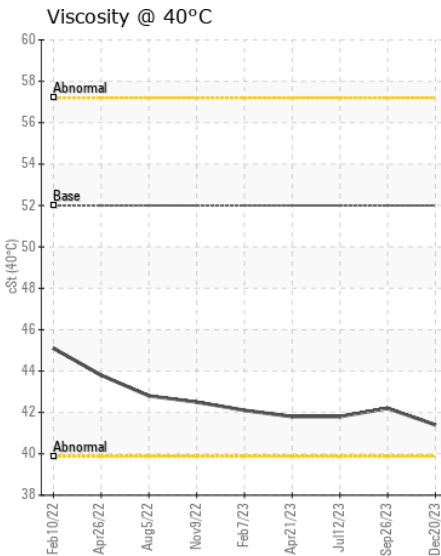
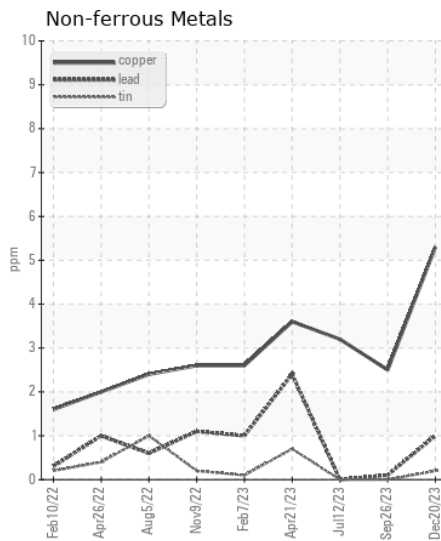
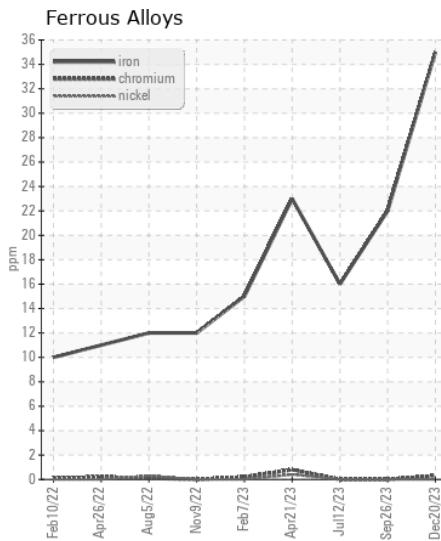
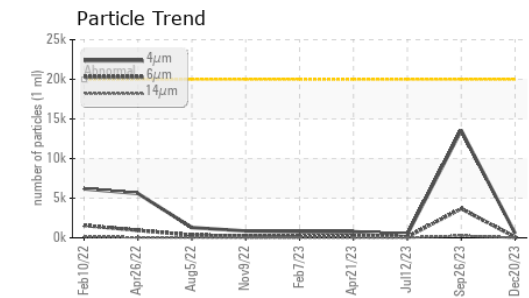
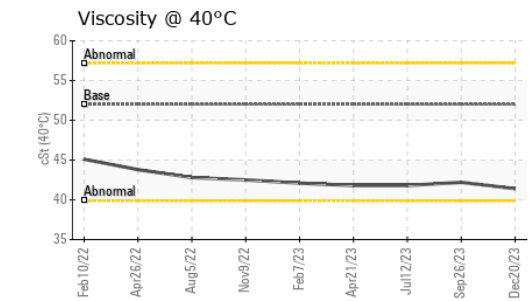
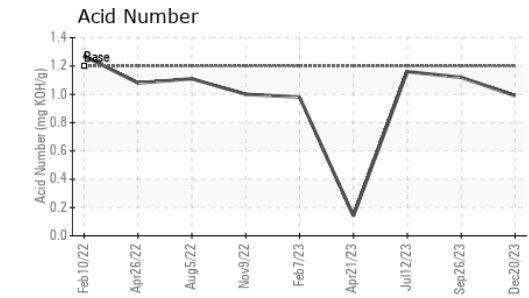
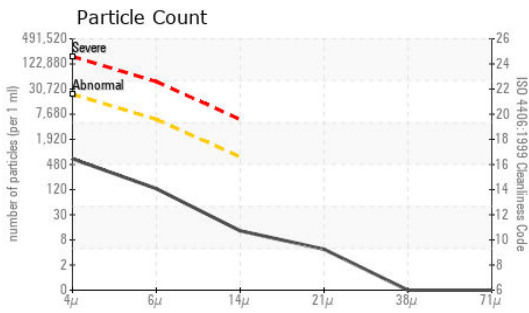
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>15	2	<1	<1
Potassium	ppm	ASTM D5185m	>20	2	0	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	574	13565	442
Particles >6µm		ASTM D7647	>5000	112	3674	131
Particles >14µm		ASTM D7647	>640	11	266	16
Particles >21µm		ASTM D7647	>160	4	71	7
Particles >38µm		ASTM D7647	>40	0	1	0
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	16/14/11	21/19/15	16/14/11
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		0	2	3
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m	7	5	10	5
Calcium	ppm	ASTM D5185m	1500	1734	1350	1461
Phosphorus	ppm	ASTM D5185m	750	658	607	625
Zinc	ppm	ASTM D5185m	820	871	697	742
Sulfur	ppm	ASTM D5185m	4000	4999	3917	5028
Acid Number (AN)	mg KOH/g	ASTM D8045	1.2	0.99	1.12	1.16
Visc @ 40°C	cSt	ASTM D445	52	41.4	42.2	41.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LHMC155857 **Received** : 16 Jan 2024
Lab Number : 06061898 **Diagnosed** : 18 Jan 2024
Unique Number : 10833280 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: PQ)

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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)