



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH50 114410-1216
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		LH0268376	LH0244121	LH0190580
Sample Date		Client Info		11 Jun 2024	06 Jun 2023	05 Jul 2022
Machine Age	hrs	Client Info		6530	4573	2990
Oil Age	hrs	Client Info		0	0	2990
Filter Age	hrs	Client Info		0	0	1019
Oil Changed		Client Info		Not Changed	Not Changed	Not Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				NORMAL	NORMAL	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	22	15	16
Chromium	ppm	ASTM D5185m	>5	1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		<1	0	0
Aluminum	ppm	ASTM D5185m	>2	3	0	<1
Lead	ppm	ASTM D5185m	>4	2	0	1
Copper	ppm	ASTM D5185m	>10	6	3	3
Tin	ppm	ASTM D5185m	>2	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

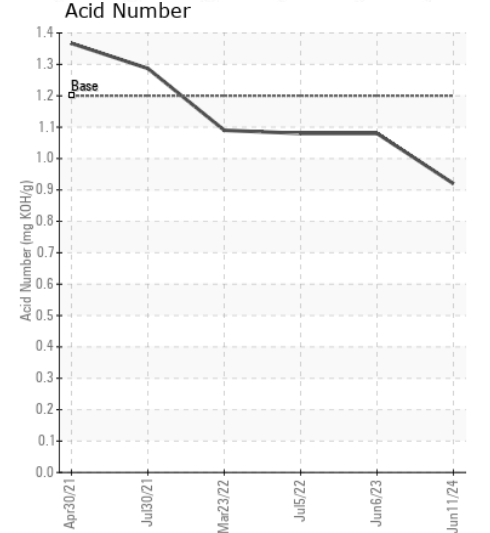
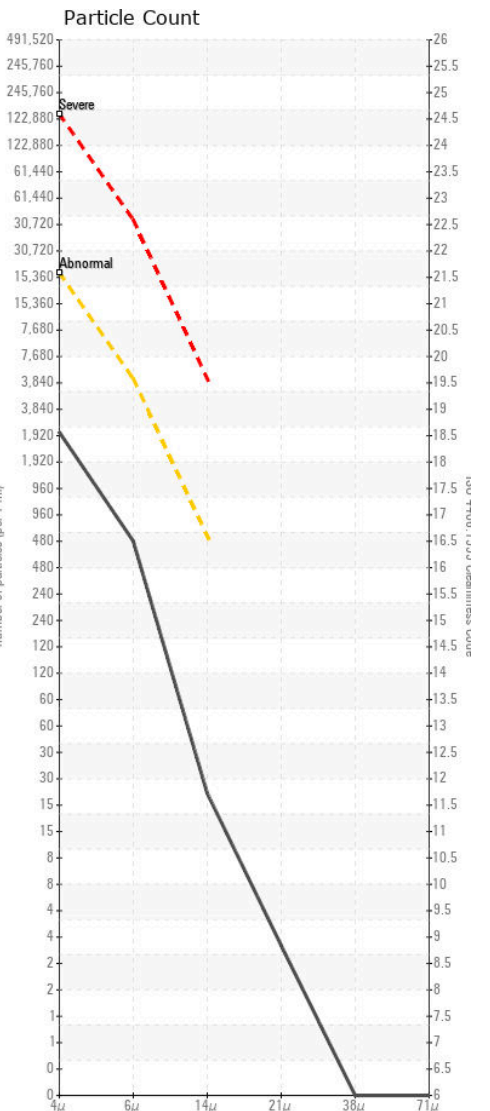
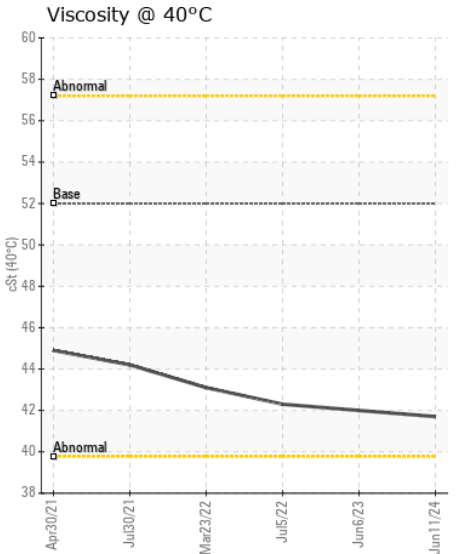
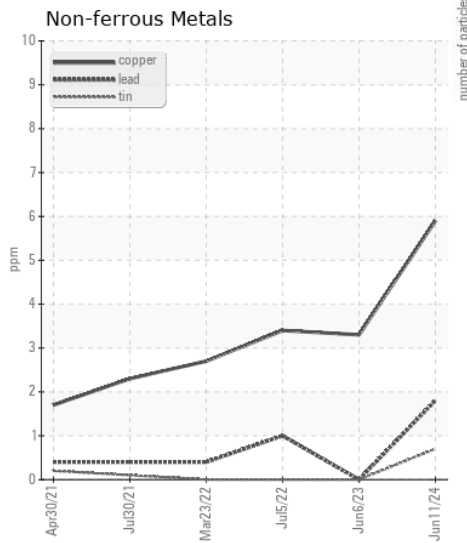
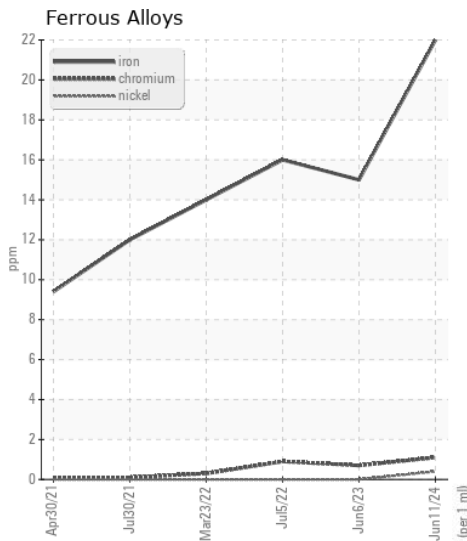
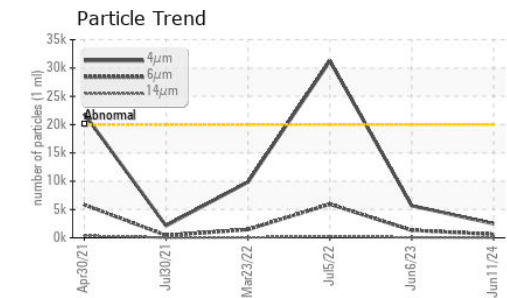
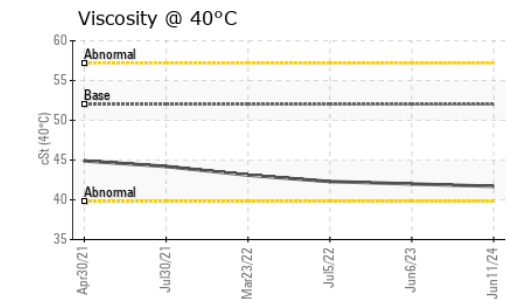
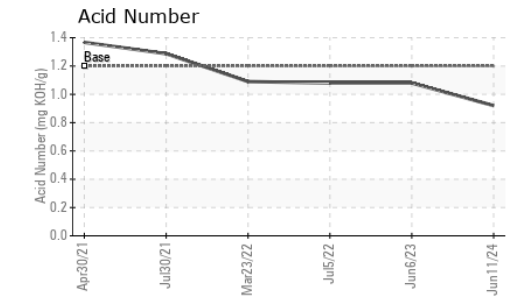
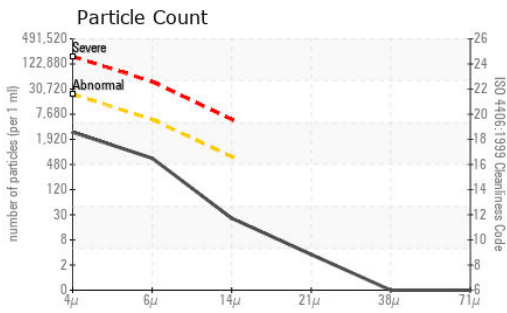
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185m	>17	3	1	2
Potassium	ppm	ASTM D5185m	>20	2	<1	2
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	2483	5671	31221
Particles >6µm		ASTM D7647	>5000	596	1325	5952
Particles >14µm		ASTM D7647	>640	22	65	239
Particles >21µm		ASTM D7647	>160	3	14	55
Particles >38µm		ASTM D7647	>40	0	0	1
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	18/16/12	20/18/13	22/20/15
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	LIGHT
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		<1	2	<1
Boron	ppm	ASTM D5185m		<1	0	0
Barium	ppm	ASTM D5185m		1	0	0
Molybdenum	ppm	ASTM D5185m		<1	0	0
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	7	6	6	6
Calcium	ppm	ASTM D5185m	1500	1440	1394	1357
Phosphorus	ppm	ASTM D5185m	750	670	623	606
Zinc	ppm	ASTM D5185m	820	743	731	698
Sulfur	ppm	ASTM D5185m	4000	5272	6257	5578
Acid Number (AN)	mg KOH/g	ASTM D8045	1.2	0.92	1.08	1.08
Visc @ 40°C	cSt	ASTM D445	52	41.7	42.0	42.3



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0268376 **Received** : 21 Jun 2024
Lab Number : 06216796 **Tested** : 24 Jun 2024
Unique Number : 11089660 **Diagnosed** : 24 Jun 2024 - Don Baldrige
Test Package : CONST

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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)