



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH110 155976-1227
Component
Hydraulic System
Fluid
TDH (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0267554	LH0267537	LH0280573
Sample Date		Client Info		12 May 2024	18 Apr 2024	23 Feb 2024
Machine Age	hrs	Client Info		1951	1623	995
Oil Age	hrs	Client Info		1951	628	0
Filter Age	hrs	Client Info		956	628	0
Oil Changed		Client Info		Not Changed	Not Changed	Not Changed
Filter Changed		Client Info		Changed	Not Changed	Changed
Sample Status				NORMAL	NORMAL	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>60	6	10	12
Chromium	ppm	ASTM D5185m	>40	<1	1	1
Nickel	ppm	ASTM D5185m	>10	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m		0	<1	0
Aluminum	ppm	ASTM D5185m	>5	<1	2	1
Lead	ppm	ASTM D5185m	>5	0	<1	<1
Copper	ppm	ASTM D5185m	>15	1	3	2
Tin	ppm	ASTM D5185m	>5	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

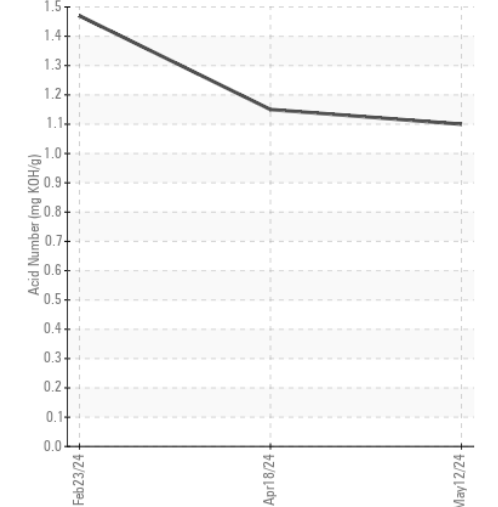
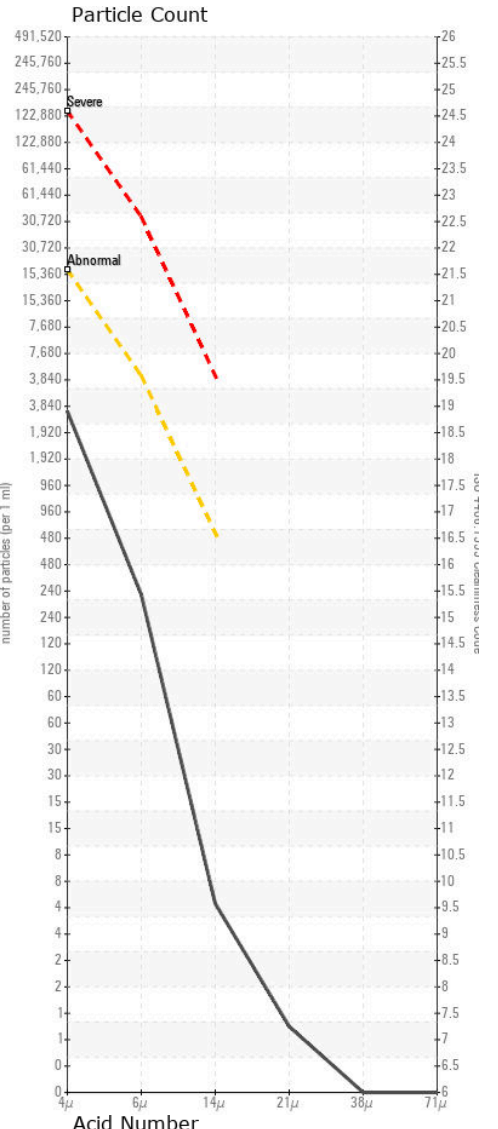
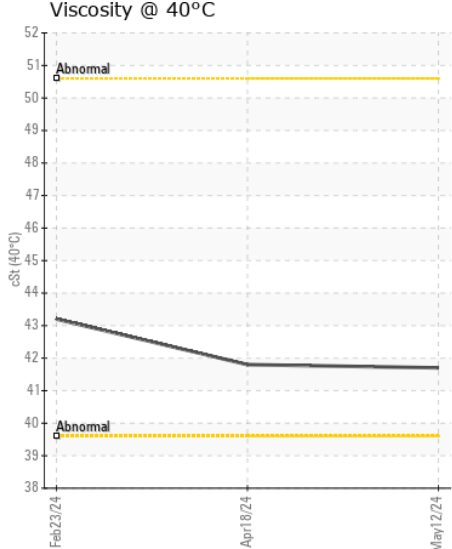
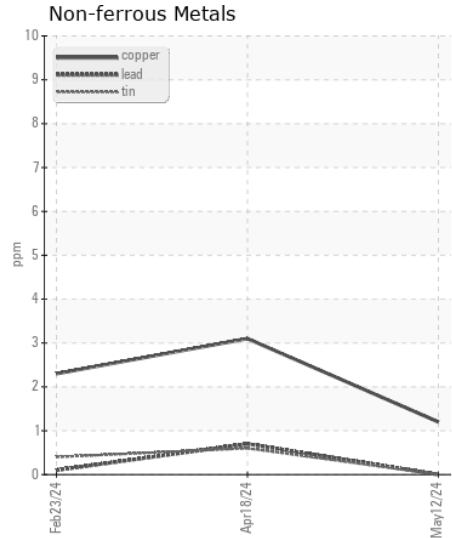
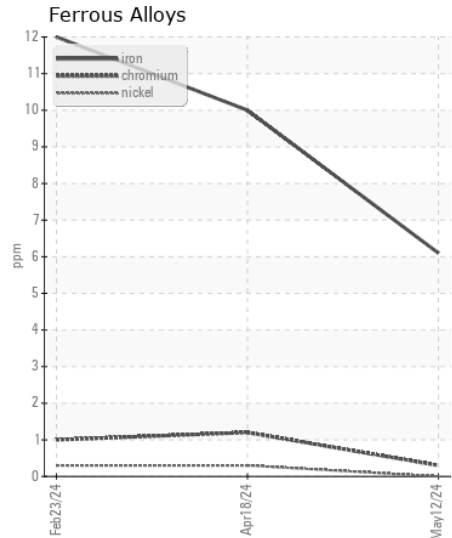
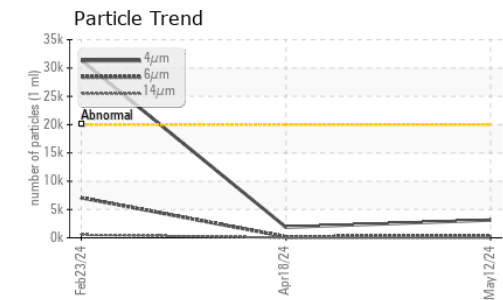
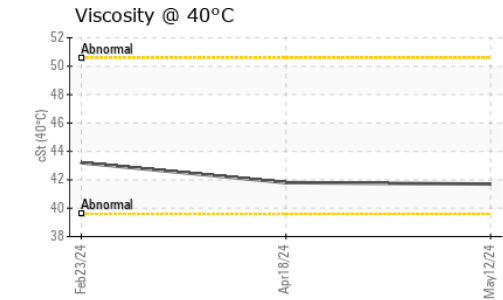
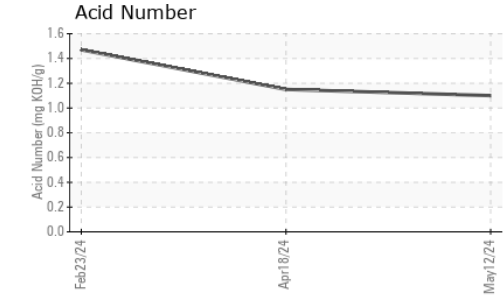
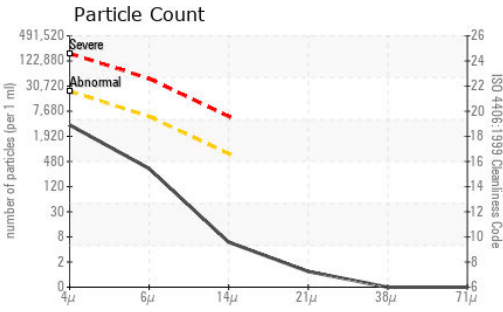
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185m	>15	6	7	7
Potassium	ppm	ASTM D5185m	>20	<1	2	2
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	3142	1873	31382
Particles >6µm		ASTM D7647	>5000	285	182	7078
Particles >14µm		ASTM D7647	>640	5	5	536
Particles >21µm		ASTM D7647	>160	1	1	145
Particles >38µm		ASTM D7647	>40	0	0	3
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	19/15/10	18/15/10	22/20/16
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		<1	<1	<1
Boron	ppm	ASTM D5185m		4	3	4
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		3	2	2
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		21	16	15
Calcium	ppm	ASTM D5185m		1598	1586	1503
Phosphorus	ppm	ASTM D5185m		648	742	669
Zinc	ppm	ASTM D5185m		758	824	784
Sulfur	ppm	ASTM D5185m		4131	5042	4438
Acid Number (AN)	mg KOH/g	ASTM D8045		1.10	1.15	1.47
Visc @ 40°C	cSt	ASTM D445		41.7	41.8	43.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0267554 **Received** : 28 May 2024
Lab Number : 06192129 **Tested** : 29 May 2024
Unique Number : 11048881 **Diagnosed** : 29 May 2024 - Wes Davis
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)