



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH50M 1216-109299
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		LH0264793	LH0272565	LH0263976
Sample Date		Client Info		11 Apr 2024	19 Jan 2024	19 Oct 2023
Machine Age	hrs	Client Info		9469	9018	8565
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changed	Not Changed	Not Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>60	11	10	10
Chromium	ppm	ASTM D5185m	>40	1	<1	<1
Nickel	ppm	ASTM D5185m	>10	<1	0	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>5	2	1	0
Lead	ppm	ASTM D5185m	>5	1	<1	0
Copper	ppm	ASTM D5185m	>15	3	2	2
Tin	ppm	ASTM D5185m	>5	<1	<1	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

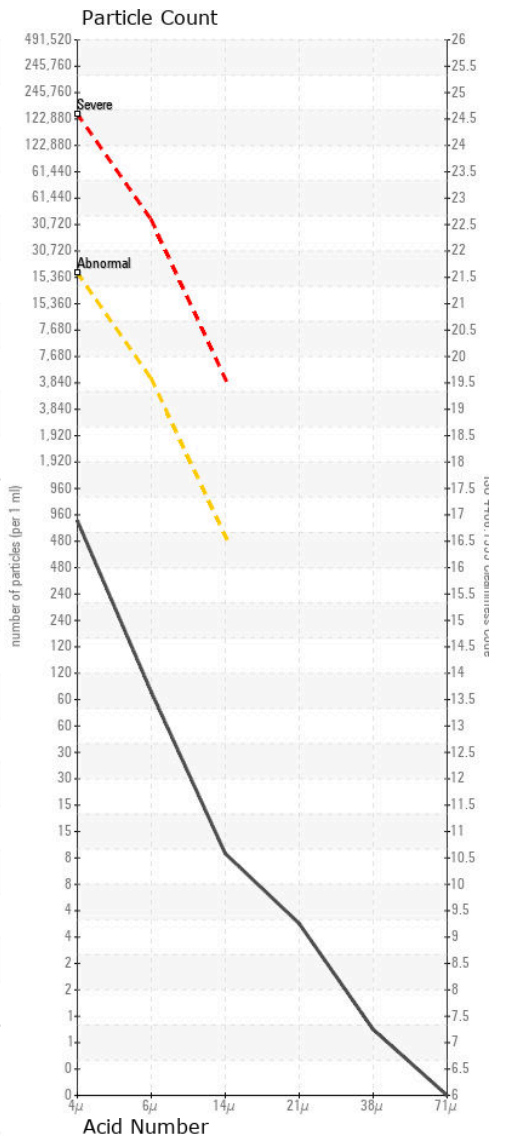
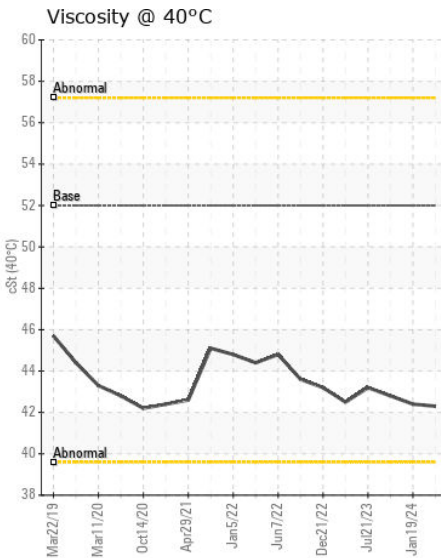
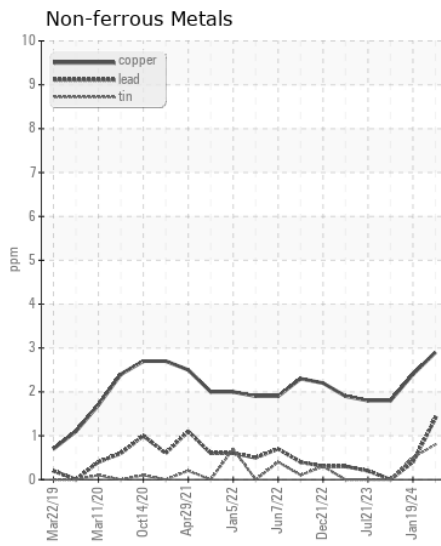
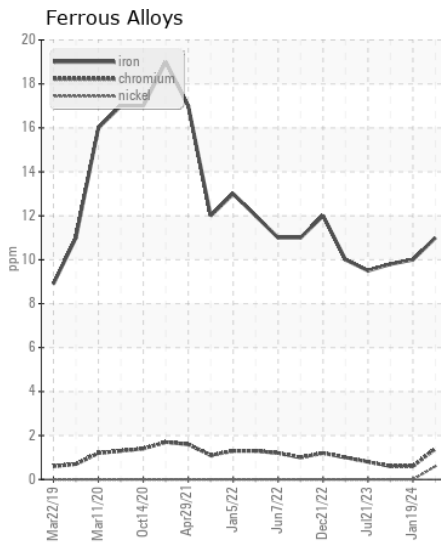
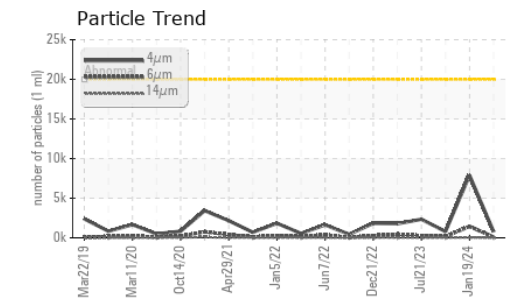
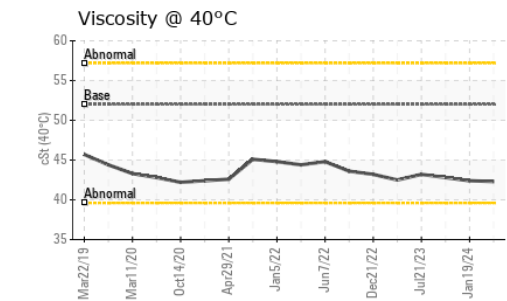
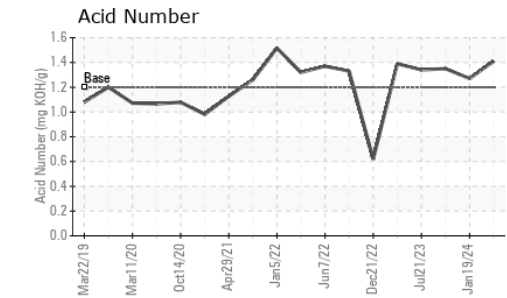
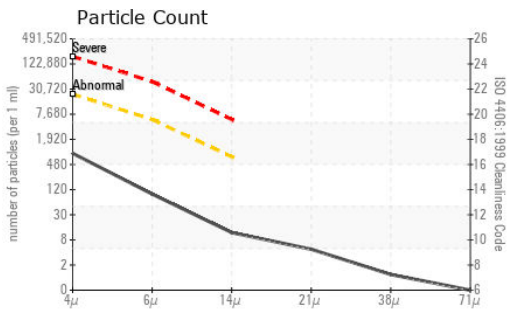
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>15	5	4	3
Potassium	ppm	ASTM D5185m	>20	2	0	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	780	7894	790
Particles >6µm		ASTM D7647	>5000	83	1452	168
Particles >14µm		ASTM D7647	>640	10	49	22
Particles >21µm		ASTM D7647	>160	4	9	7
Particles >38µm		ASTM D7647	>40	1	0	0
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	17/14/10	20/18/13	17/15/12
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT	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	4	3
Boron	ppm	ASTM D5185m		53	48	52
Barium	ppm	ASTM D5185m		2	0	0
Molybdenum	ppm	ASTM D5185m		44	44	43
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m	7	119	124	115
Calcium	ppm	ASTM D5185m	1500	2838	2808	2613
Phosphorus	ppm	ASTM D5185m	750	1056	1020	947
Zinc	ppm	ASTM D5185m	820	1153	1127	1059
Sulfur	ppm	ASTM D5185m	4000	4291	3637	3517
Acid Number (AN)	mg KOH/g	ASTM D8045	1.2	1.41	1.27	1.35
Visc @ 40°C	cSt	ASTM D445	52	42.3	42.4	42.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : LH0264793

Lab Number : 06153764

Unique Number : 10989187

Test Package : CONST

Received : 18 Apr 2024

Tested : 20 Apr 2024

Diagnosed : 23 Apr 2024 - Angela Borella

ALTER METAL

2900 SHERMAN STREET

WAUSAU, WI

US 54401

Contact: Service Manager

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)

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