CONST

LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
[KIMMEL]
Machine Id
LIEBHERR LH50M 1216-117615
Component
Hydraulic System
Fluid
LIEBHERR HYDRAULIC HVI (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

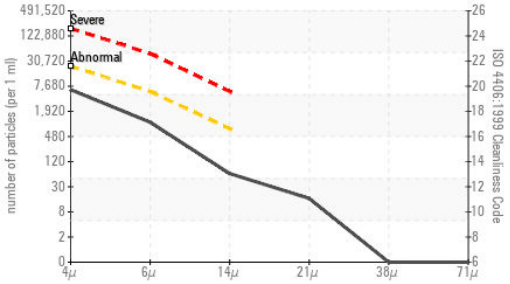
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

FLUID CONDITION

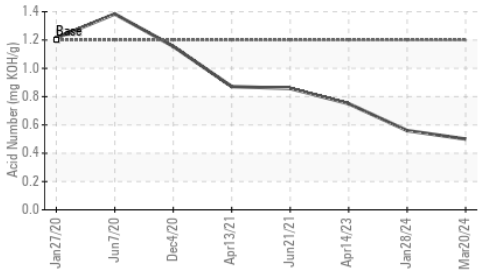
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0268645	LH06072749	LH0244104
Sample Date		Client Info		20 Mar 2024	28 Jan 2024	14 Apr 2023
Machine Age	hrs	Client Info		5510	1216	6895
Oil Age	hrs	Client Info		5510	0	1000
Filter Age	hrs	Client Info		0	0	1000
Oil Changed		Client Info		Not Changd	N/A	Not Changd
Filter Changed		Client Info		Not Changd	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>50	23	26	33
Chromium	ppm	ASTM D5185m	>5	1	2	3
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>2	0	2	0
Lead	ppm	ASTM D5185m	>4	0	0	0
Copper	ppm	ASTM D5185m	>10	0	1	3
Tin	ppm	ASTM D5185m	>2	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>17	1	<1	2
Potassium	ppm	ASTM D5185m	>20	0	<1	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	5514	5220	19645
Particles >6µm		ASTM D7647	>5000	925	629	1307
Particles >14µm		ASTM D7647	>640	55	41	13
Particles >21µm		ASTM D7647	>160	14	17	2
Particles >38µm		ASTM D7647	>40	0	2	0
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	20/17/13	20/16/13	21/18/11
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
Sodium	ppm	ASTM D5185m		<1	0	2
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	<1
Manganese	ppm	ASTM D5185m		0	0	<1
Magnesium	ppm	ASTM D5185m	7	0	2	12
Calcium	ppm	ASTM D5185m	1500	272	329	880
Phosphorus	ppm	ASTM D5185m	750	356	358	427
Zinc	ppm	ASTM D5185m	820	424	470	502
Sulfur	ppm	ASTM D5185m	4000	2655	2513	3628
Acid Number (AN)	mg KOH/g	ASTM D8045	1.2	0.50	0.56	0.75
Visc @ 40°C	cSt	ASTM D445	52	42.8	43.0	42.8

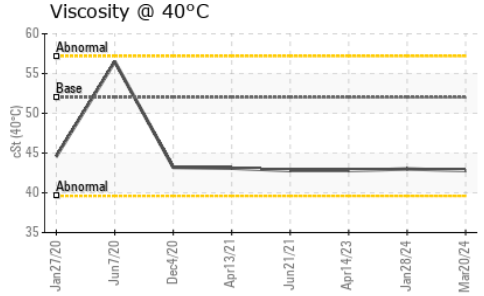
Particle Count



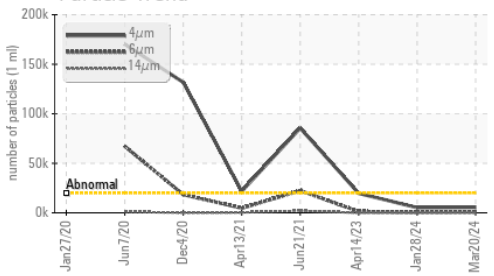
Acid Number



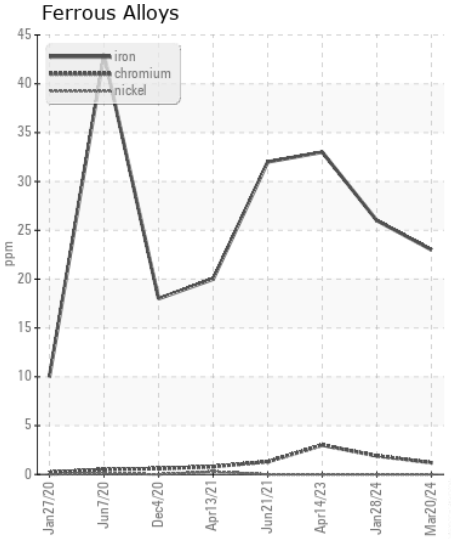
Viscosity @ 40°C



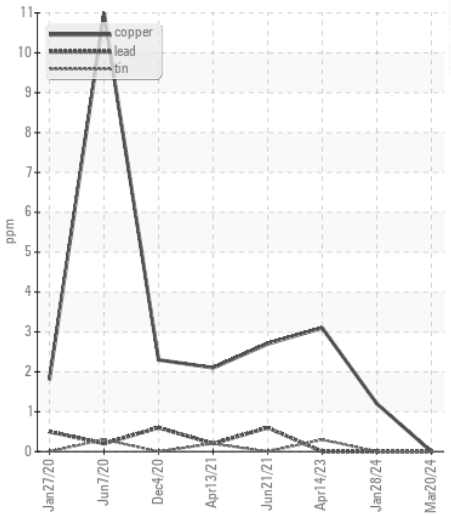
Particle Trend



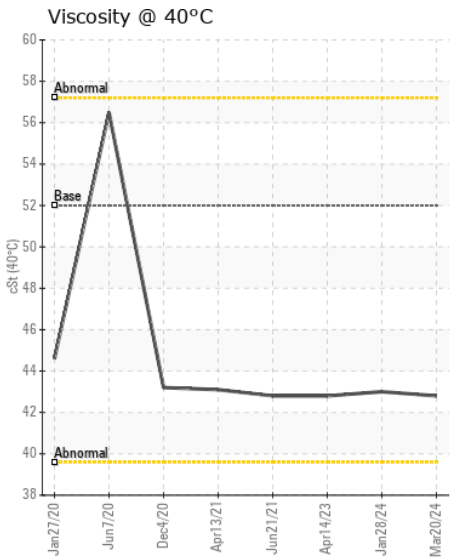
Ferrous Alloys



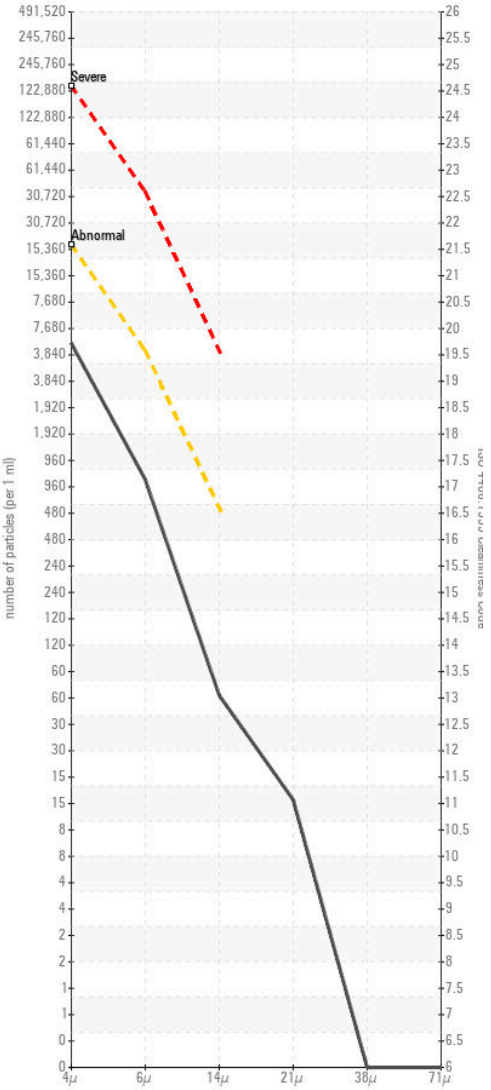
Non-ferrous Metals



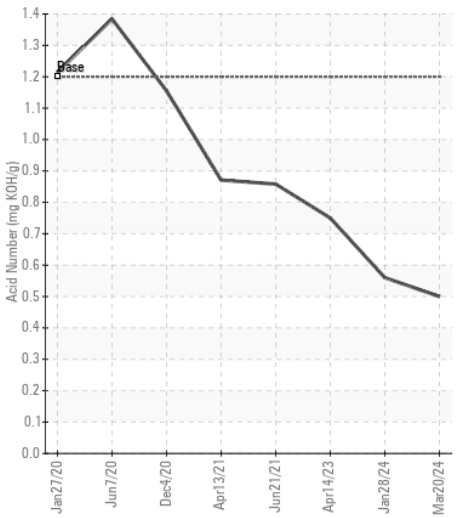
Viscosity @ 40°C



Particle Count



Acid Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0268645
Lab Number : 06125223
Unique Number : 10939374
Test Package : CONST

Received : 21 Mar 2024
Tested : 27 Mar 2024
Diagnosed : 27 Mar 2024 - Jonathan Hester

Certificate L2367

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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