CONST

LIEBHERR

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR L586 046715-1334
Component
Hydraulic System
Fluid
LIEBHERR HYDRAULIC HVI (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

The aluminum level is abnormal. All other component wear rates are normal.

CONTAMINATION

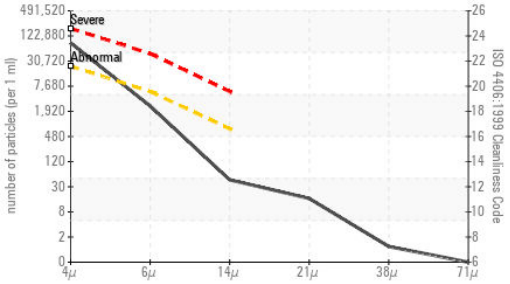
There is a high amount of silt (particulates < 14 microns in size) present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material.

FLUID CONDITION

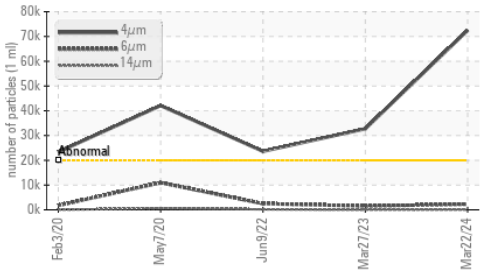
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0258895	LH0254411	LH0220315
Sample Date		Client Info		22 Mar 2024	27 Mar 2023	09 Jun 2022
Machine Age	hrs	Client Info		11124	10000	9047
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Not Changd	N/A
Filter Changed		Client Info		Changed	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>50	40	33	24
Chromium	ppm	ASTM D5185m	>5	5	4	4
Nickel	ppm	ASTM D5185m	>2	1	0	0
Titanium	ppm	ASTM D5185m		1	<1	<1
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>5	▲ 9	▲ 7	▲ 6
Lead	ppm	ASTM D5185m	>15	10	8	8
Copper	ppm	ASTM D5185m	>10	5	4	4
Tin	ppm	ASTM D5185m	>2	2	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>15	▲ 20	▲ 19	15
Potassium	ppm	ASTM D5185m	>20	6	4	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	▲ 72481	● 32734	● 23618
Particles >6µm		ASTM D7647	>5000	2259	1506	2488
Particles >14µm		ASTM D7647	>640	39	16	188
Particles >21µm		ASTM D7647	>160	14	5	40
Particles >38µm		ASTM D7647	>40	1	1	1
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ 23/18/12	● 22/18/11	● 22/18/15
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
Sodium	ppm	ASTM D5185m		0	<1	<1
Boron	ppm	ASTM D5185m		0	0	2
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		1	<1	<1
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m	7	11	11	12
Calcium	ppm	ASTM D5185m	1500	1005	970	1146
Phosphorus	ppm	ASTM D5185m	750	505	472	531
Zinc	ppm	ASTM D5185m	820	574	594	630
Sulfur	ppm	ASTM D5185m	4000	4771	4545	4621
Acid Number (AN)	mg KOH/g	ASTM D8045	1.2	0.76	0.79	0.73
Visc @ 40°C	cSt	ASTM D445	52	46.7	46.9	47.3

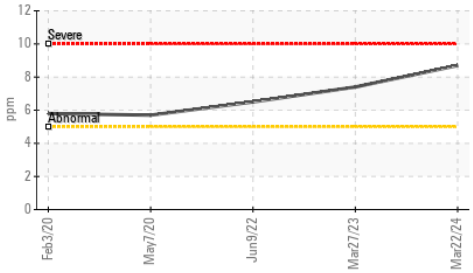
Particle Count



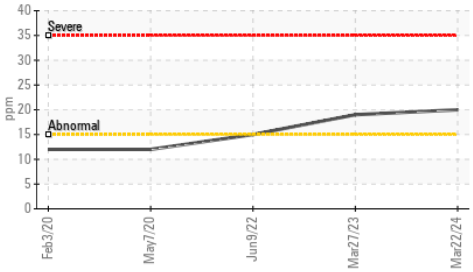
Particle Trend



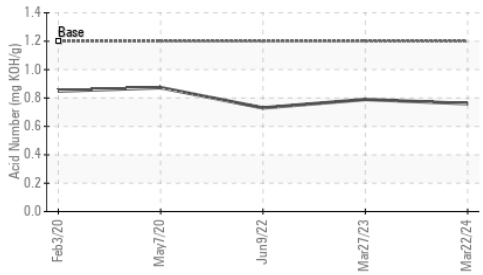
Aluminum (ppm)



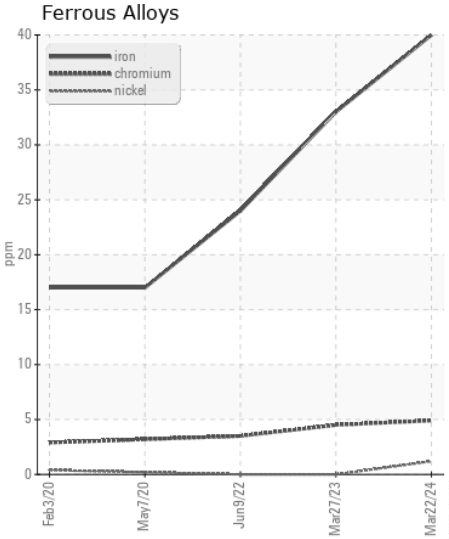
Silicon (ppm)



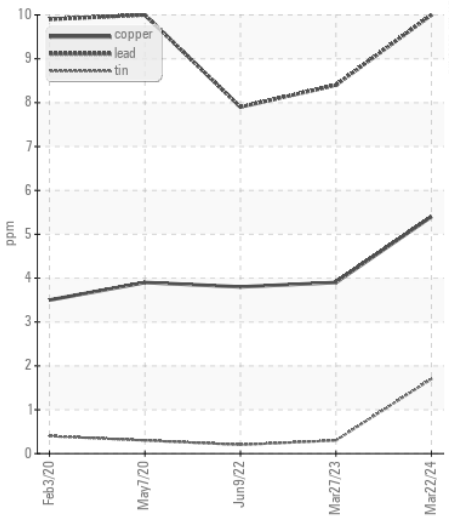
Acid Number



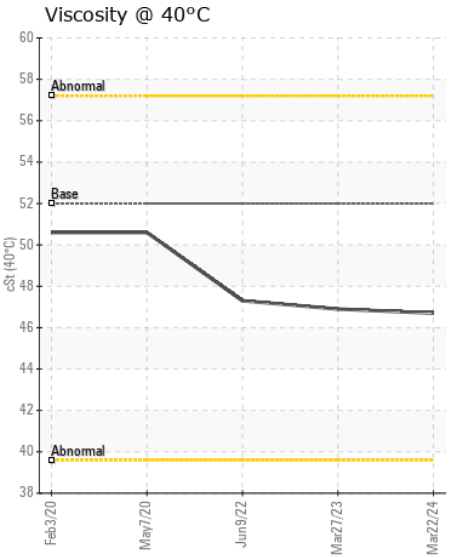
Ferrous Alloys



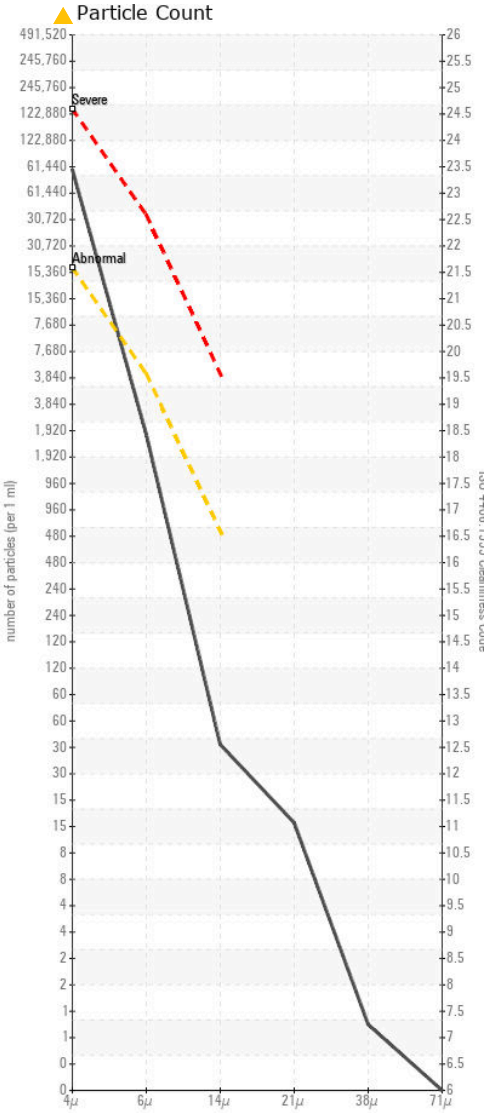
Non-ferrous Metals



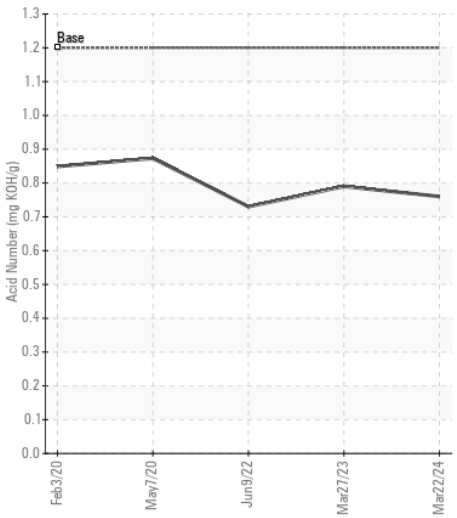
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: LH0258895	**Received**	: 11 Apr 2024
Lab Number	: 06146525	**Tested**	: 12 Apr 2024
Unique Number	: 10976603	**Diagnosed**	: 15 Apr 2024 - Don Baldridge
Test Package	: CONST		

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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