



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR A934C 064064-1007
Component
Hydraulic System
Fluid
LIEBHERR HYDRAULIC HVI (150 GAL)

RECOMMENDATION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0258837	LH0272770	LH0243357
Sample Date		Client Info		20 Feb 2024	21 Dec 2023	02 Oct 2023
Machine Age	hrs	Client Info		26421	25949	25481
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				ATTENTION	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>70	7	8	6
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>2	<1	2	<1
Lead	ppm	ASTM D5185m	>5	2	<1	0
Copper	ppm	ASTM D5185m	>15	2	3	2
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

CONTAMINATION

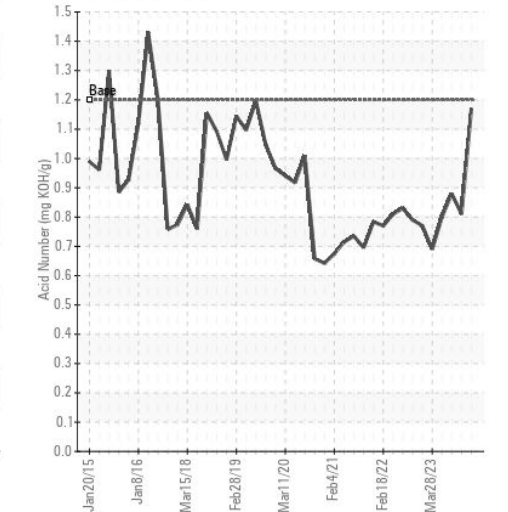
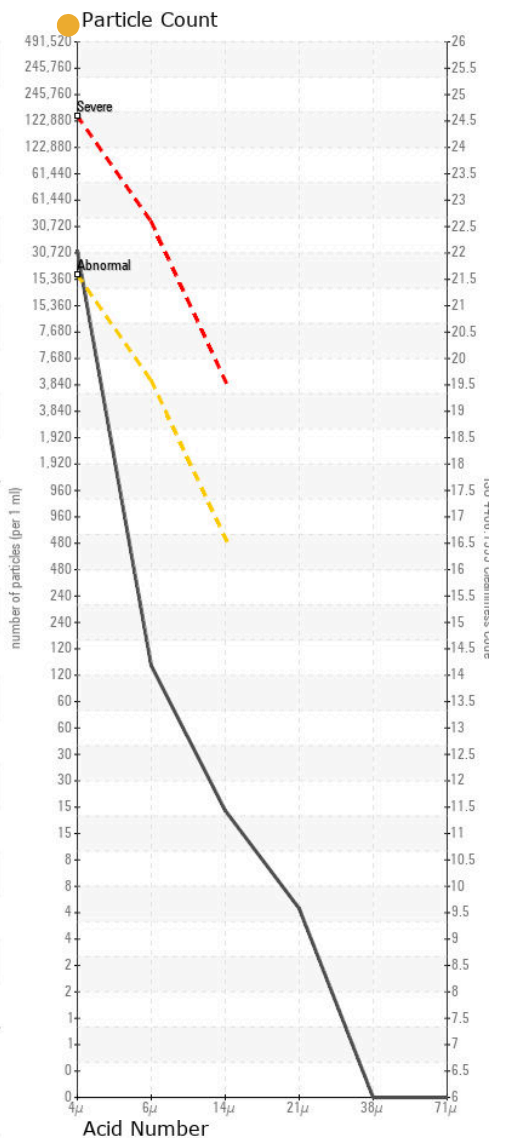
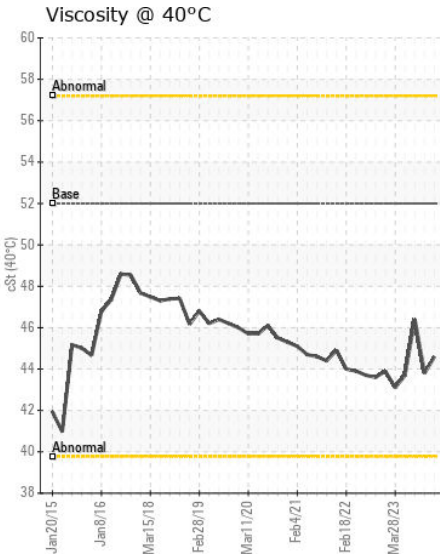
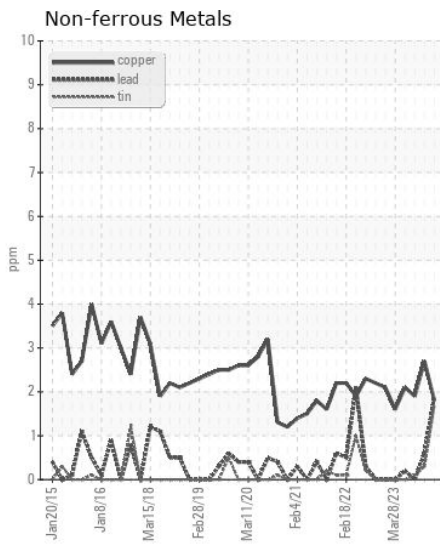
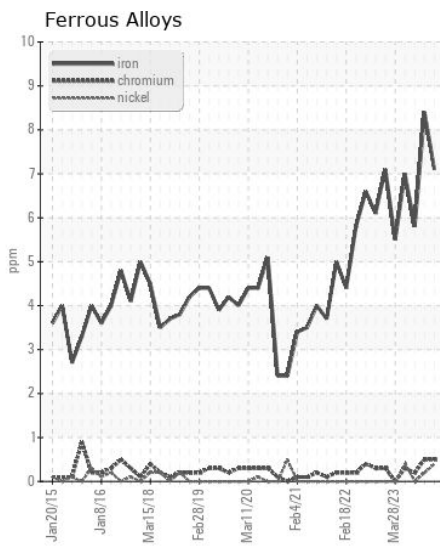
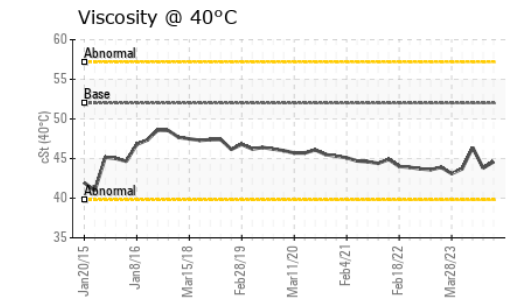
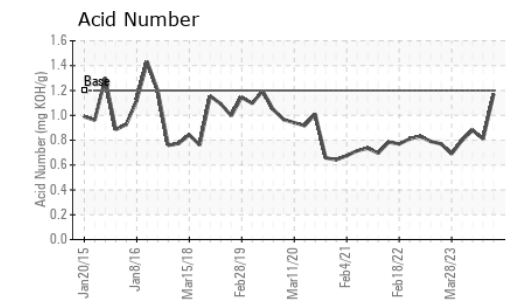
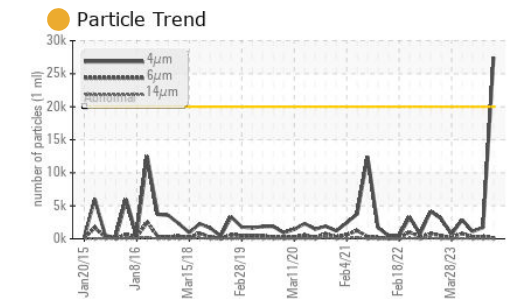
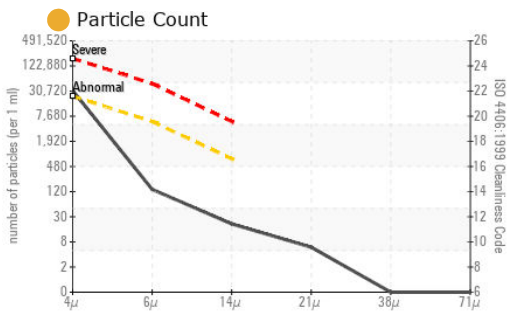
There is a moderate amount of silt (particulates < 6 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>20	8	7	6
Potassium	ppm	ASTM D5185m	>20	<1	3	<1
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	27461	1728	1111
Particles >6µm		ASTM D7647	>5000	120	353	282
Particles >14µm		ASTM D7647	>640	18	30	23
Particles >21µm		ASTM D7647	>160	5	10	3
Particles >38µm		ASTM D7647	>40	0	0	0
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	22/14/11	18/16/12	17/15/12
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		3	0	4
Boron	ppm	ASTM D5185m		54	51	44
Barium	ppm	ASTM D5185m		0	7	0
Molybdenum	ppm	ASTM D5185m		0	<1	<1
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m	7	14	11	13
Calcium	ppm	ASTM D5185m	1500	2270	1947	1690
Phosphorus	ppm	ASTM D5185m	750	879	811	708
Zinc	ppm	ASTM D5185m	820	1072	947	886
Sulfur	ppm	ASTM D5185m	4000	4269	4411	3607
Acid Number (AN)	mg KOH/g	ASTM D8045	1.2	1.17	0.81	0.88
Visc @ 40°C	cSt	ASTM D445	52	44.6	43.8	46.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0258837
Lab Number : 06103638
Unique Number : 10901868
Test Package : CONST

Received : 28 Feb 2024
Tested : 06 Mar 2024
Diagnosed : 06 Mar 2024 - Jonathan Hester

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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)