



LIEBHERR

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH60M 119208-1217
Component
Swing Drive
Fluid
LIEBHERR GEAR BASIC 90 LS (--- GAL)

RECOMMENDATION

We advise that you check for the source of water entry. The oil 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		LH0267393	LH0257446	LH0200267
Sample Date		Client Info		04 Jan 2024	05 Jul 2023	30 Nov 2022
Machine Age	hrs	Client Info		4478	3275	1763
Oil Age	hrs	Client Info		1203	700	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Not Changd
Filter Changed		Client Info		N/A	Changed	Not Changd
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

Gear wear is indicated.

Iron	ppm	ASTM D5185m	>350	▲ 854	320	▲ 452
Chromium	ppm	ASTM D5185m	>15	9	3	5
Nickel	ppm	ASTM D5185m	>5	1	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>5	2	1	1
Lead	ppm	ASTM D5185m	>10	<1	0	<1
Copper	ppm	ASTM D5185m	>300	116	49	67
Tin	ppm	ASTM D5185m	>15	5	3	2
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

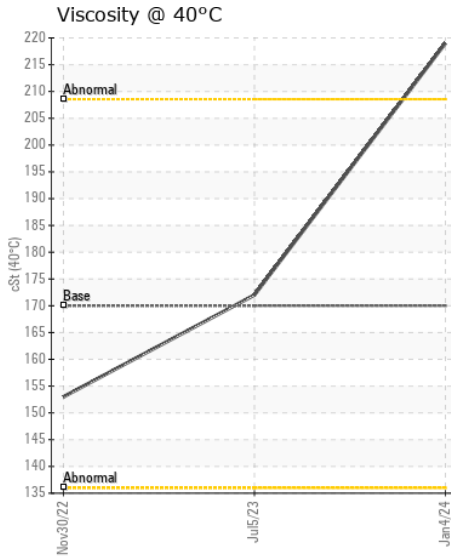
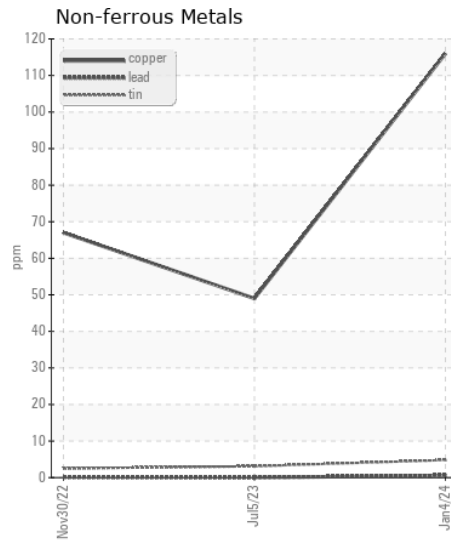
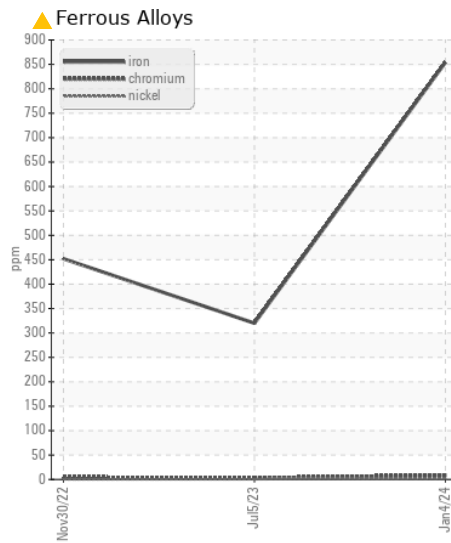
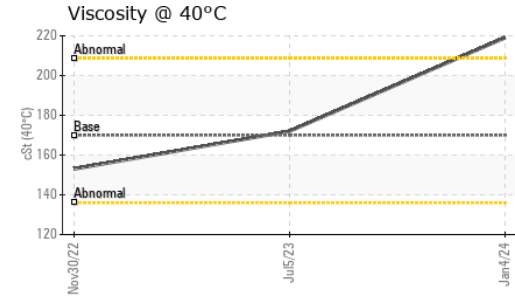
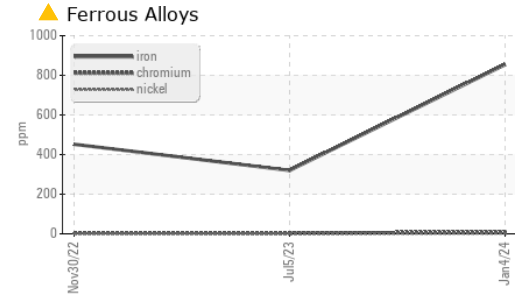
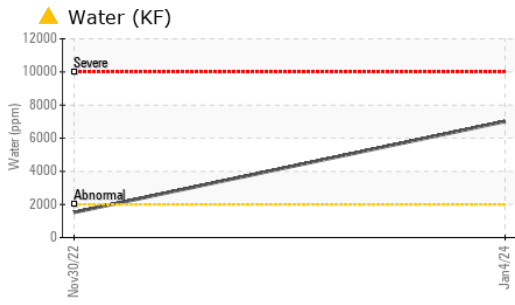
There is a moderate concentration of water present in the oil.

Silicon	ppm	ASTM D5185m	>15	4	<1	2
Potassium	ppm	ASTM D5185m	>20	1	0	0
Water	%	ASTM D6304	>0.2	▲ 0.701	---	▲ 0.152
ppm Water	ppm	ASTM D6304	>2000	▲ 7010	---	▲ 1520
Silt	scalar	*Visual	NONE	NONE	LIGHT	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	>0.2	▲ 0.2%	NEG	0.2%

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		0	1	2
Boron	ppm	ASTM D5185m	0	34	54	85
Barium	ppm	ASTM D5185m	0	8	0	<1
Molybdenum	ppm	ASTM D5185m	0	1	<1	<1
Manganese	ppm	ASTM D5185m	0	7	4	4
Magnesium	ppm	ASTM D5185m	<1	2	14	<1
Calcium	ppm	ASTM D5185m	<1	74	6	21
Phosphorus	ppm	ASTM D5185m	2143	2118	2127	1337
Zinc	ppm	ASTM D5185m	<1	46	0	7
Sulfur	ppm	ASTM D5185m	23468	29729	33084	30475
Visc @ 40°C	cSt	ASTM D445	170	219	172	▲ 153



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0267393 **Received** : 08 Jan 2024
Lab Number : 06054380 **Diagnosed** : 10 Jan 2024
Unique Number : 10820329 **Diagnostician** : Jonathan Hester
Test Package : CONST (Additional Tests: KF)

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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