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LIEBHERR

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR A934 061746-1418
Component
Front Left Wheel Hub
Fluid
GEAR OIL SAE 75W90 (3 LTR)

RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

WEAR

Iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

CONTAMINATION

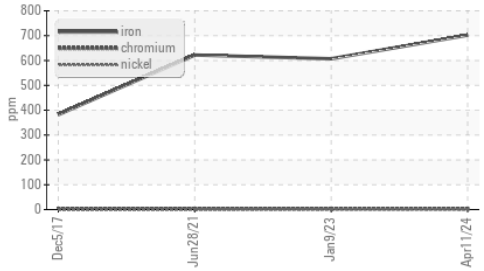
There is no indication of any contamination in the oil.

FLUID CONDITION

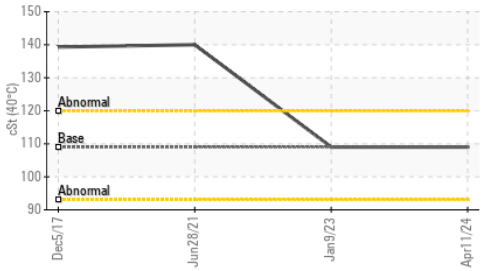
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH	LH0251443	LH0193014
Sample Date		Client Info		11 Apr 2024	09 Jan 2023	28 Jun 2021
Machine Age	hrs	Client Info		13245	13240	11426
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
PQ		ASTM D8184*	>600	0	4	39
Iron	ppm	ASTM D5185(m)	>550	▲ 702	▲ 607	▲ 622
Chromium	ppm	ASTM D5185(m)	>4	3	3	3
Nickel	ppm	ASTM D5185(m)	>3	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	>50	<1	<1	<1
Silver	ppm	ASTM D5185(m)		0	0	<1
Aluminum	ppm	ASTM D5185(m)	>15	2	2	5
Lead	ppm	ASTM D5185(m)	>20	0	<1	2
Copper	ppm	ASTM D5185(m)	>95	8	8	14
Tin	ppm	ASTM D5185(m)	>4	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	<1
White Metal	scalar	Visual*	NONE	NONE	VLITE	VLITE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185(m)	>75	9	10	25
Potassium	ppm	ASTM D5185(m)	>20	8	8	17
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	VLITE	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	NEG	NEG	NEG
Sodium	ppm	ASTM D5185(m)		9	9	25
Boron	ppm	ASTM D5185(m)	400	62	95	10
Barium	ppm	ASTM D5185(m)	200	0	0	1
Molybdenum	ppm	ASTM D5185(m)	12	2	3	12
Manganese	ppm	ASTM D5185(m)		6	6	7
Magnesium	ppm	ASTM D5185(m)	12	3	2	6
Calcium	ppm	ASTM D5185(m)	150	170	170	614
Phosphorus	ppm	ASTM D5185(m)	1650	1438	1533	1923
Zinc	ppm	ASTM D5185(m)	125	141	129	397
Sulfur	ppm	ASTM D5185(m)	22500	19423	19756	19949
Visc @ 40°C	cSt	ASTM D7279(m)	109	109	109	140

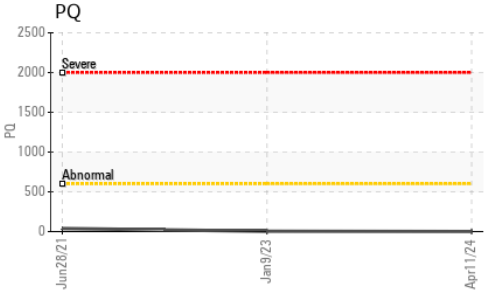
Ferrous Alloys



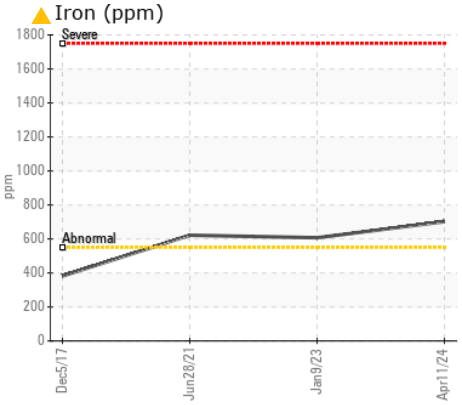
Viscosity @ 40°C



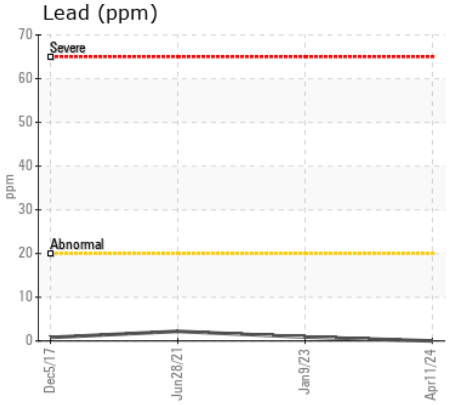
PQ



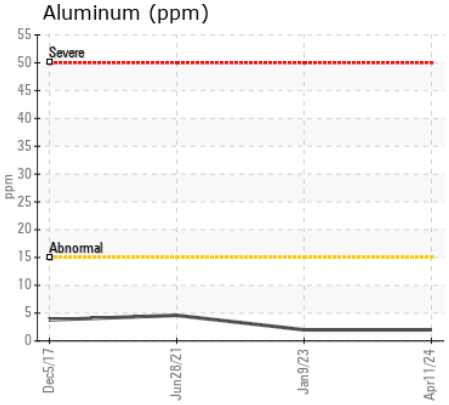
Iron (ppm)



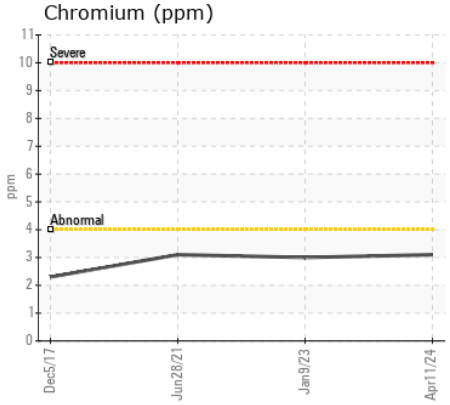
Lead (ppm)



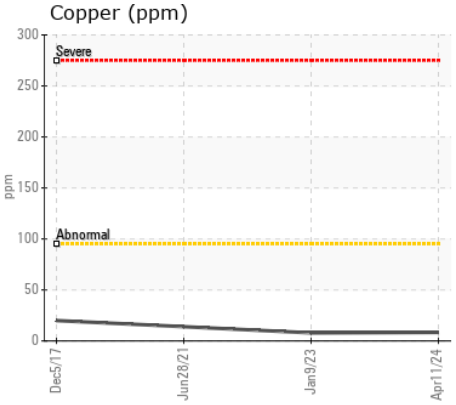
Aluminum (ppm)



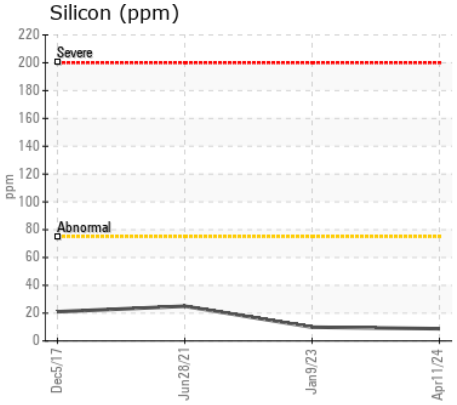
Chromium (ppm)



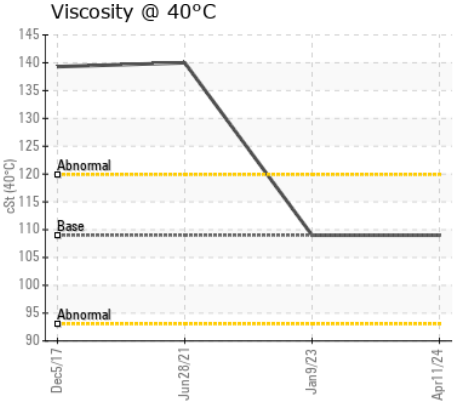
Copper (ppm)



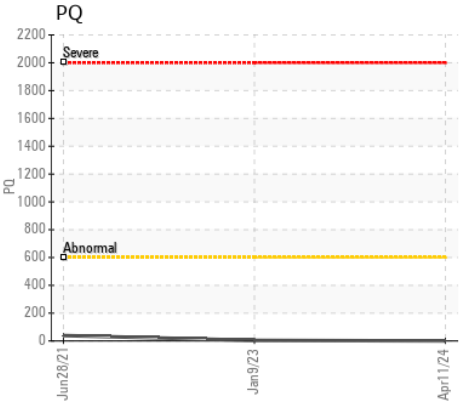
Silicon (ppm)



Viscosity @ 40°C



PQ



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH
Lab Number : 02628537
Unique Number : 5761669
Test Package : MOB 1 (Additional Tests: PQ)

Received : 12 Apr 2024
Tested : 15 Apr 2024
Diagnosed : 15 Apr 2024 - Kevin Marson

To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.

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