



LIEBHERR

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH40M 1215-149851
Component
Front Left Wheel Hub
Fluid
LIEBHERR GEAR BASIC 90 LS (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0273629	---	---
Sample Date		Client Info		14 May 2024	---	---
Machine Age	hrs	Client Info		549	---	---
Oil Age	hrs	Client Info		549	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				ABNORMAL	---	---

WEAR

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

Iron	ppm	ASTM D5185m	>650	97	---	---
Chromium	ppm	ASTM D5185m	>4	<1	---	---
Nickel	ppm	ASTM D5185m	>4	<1	---	---
Titanium	ppm	ASTM D5185m	>4	<1	---	---
Silver	ppm	ASTM D5185m		0	---	---
Aluminum	ppm	ASTM D5185m	>25	3	---	---
Lead	ppm	ASTM D5185m	>4	<1	---	---
Copper	ppm	ASTM D5185m	>60	▲ 73	---	---
Tin	ppm	ASTM D5185m	>4	<1	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

There is no indication of any contamination in the oil.

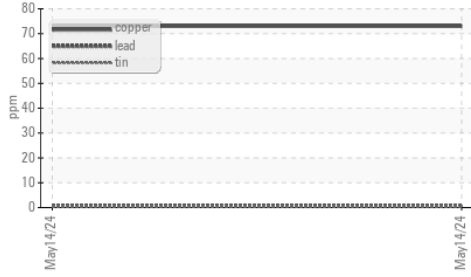
Silicon	ppm	ASTM D5185m	>75	21	---	---
Potassium	ppm	ASTM D5185m	>20	2	---	---
Water		WC Method	>0.2	NEG	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	LIGHT	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---	---

FLUID CONDITION

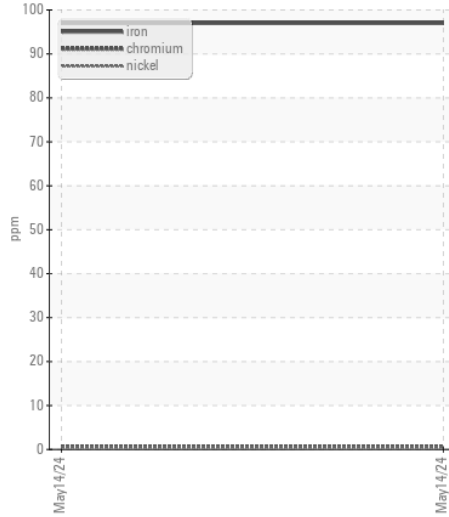
The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		3	---	---
Boron	ppm	ASTM D5185m	0	5	---	---
Barium	ppm	ASTM D5185m	0	2	---	---
Molybdenum	ppm	ASTM D5185m	0	<1	---	---
Manganese	ppm	ASTM D5185m	0	4	---	---
Magnesium	ppm	ASTM D5185m	<1	2	---	---
Calcium	ppm	ASTM D5185m	<1	63	---	---
Phosphorus	ppm	ASTM D5185m	2143	1434	---	---
Zinc	ppm	ASTM D5185m	<1	53	---	---
Sulfur	ppm	ASTM D5185m	23468	19399	---	---
Visc @ 40°C	cSt	ASTM D445	170	160	---	---

▲ Non-ferrous Metals



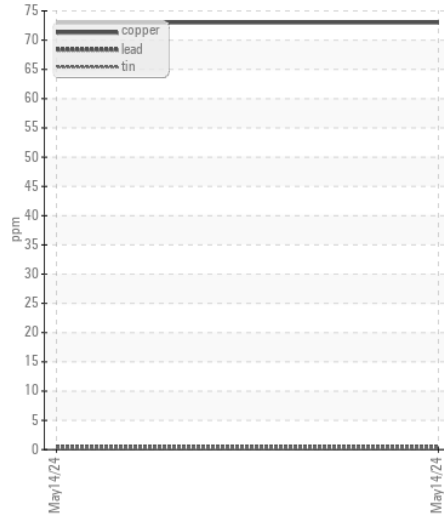
Ferrous Alloys



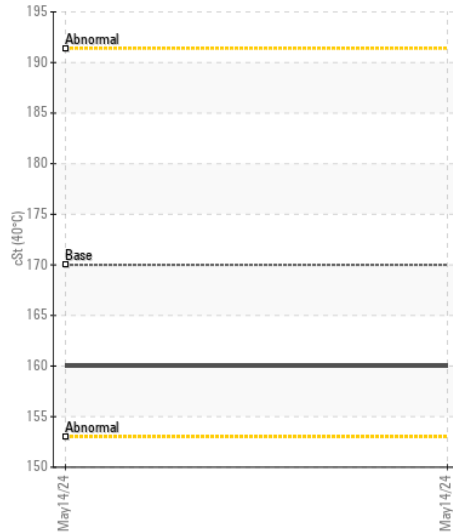
Viscosity @ 40°C



▲ Non-ferrous Metals



Viscosity @ 40°C



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0273629
Lab Number : 06215142
Unique Number : 11088006
Test Package : CONST
Received : 19 Jun 2024
Tested : 20 Jun 2024
Diagnosed : 21 Jun 2024 - Sean Felton

STAINLESS STEEL MIDWEST
 2615 KY-146
 LAGRANGE, KY
 US 40031
 Contact: Service Manager

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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F: