



LIEBHERR

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH50 1216-123739
Component
Front Left Wheel Hub
Fluid
GEAR OIL SAE 75W90 (--- 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		LH0211687	LH0211645	LH0211631
Sample Date		Client Info		31 Jan 2024	28 Mar 2023	18 Jan 2023
Machine Age	hrs	Client Info		10743	7200	6180
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		Not Changed	Not Changed	Not Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

Gear wear is indicated. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>325	▲ 443	▲ 427	217
Chromium	ppm	ASTM D5185m	>3	<1	2	1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m		<1	0	0
Aluminum	ppm	ASTM D5185m	>10	<1	3	4
Lead	ppm	ASTM D5185m	>4	0	0	<1
Copper	ppm	ASTM D5185m	>75	14	29	64
Tin	ppm	ASTM D5185m	>3	0	0	<1
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 no indication of any contamination in the oil.

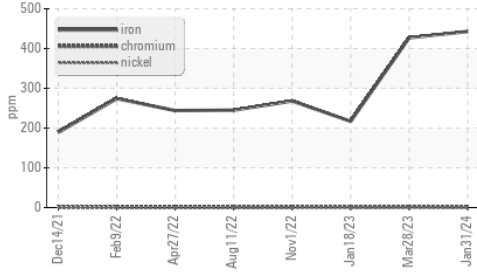
Silicon	ppm	ASTM D5185m	>75	13	21	17
Potassium	ppm	ASTM D5185m	>20	<1	2	1
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

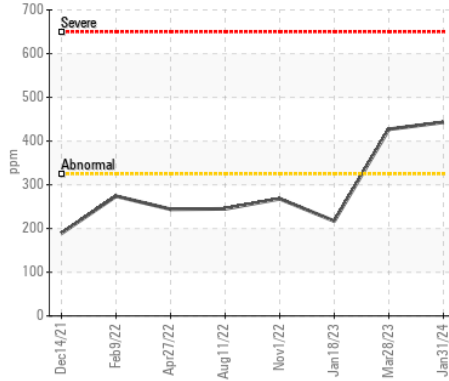
The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		9	15	10
Boron	ppm	ASTM D5185m	400	187	21	15
Barium	ppm	ASTM D5185m	200	0	0	3
Molybdenum	ppm	ASTM D5185m	12	0	2	2
Manganese	ppm	ASTM D5185m		4	6	5
Magnesium	ppm	ASTM D5185m	12	2	5	2
Calcium	ppm	ASTM D5185m	150	97	236	206
Phosphorus	ppm	ASTM D5185m	1650	2017	1982	1873
Zinc	ppm	ASTM D5185m	125	46	96	96
Sulfur	ppm	ASTM D5185m	22500	22209	27234	26430
Visc @ 40°C	cSt	ASTM D445	109	106	136	142

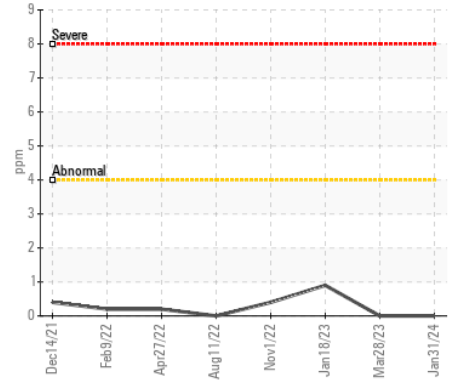
▲ Ferrous Alloys



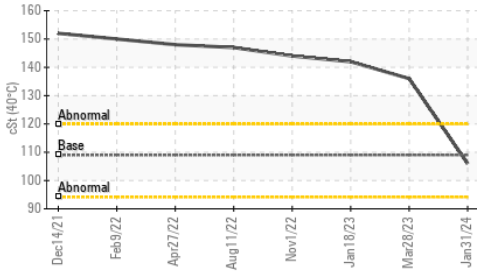
▲ Iron (ppm)



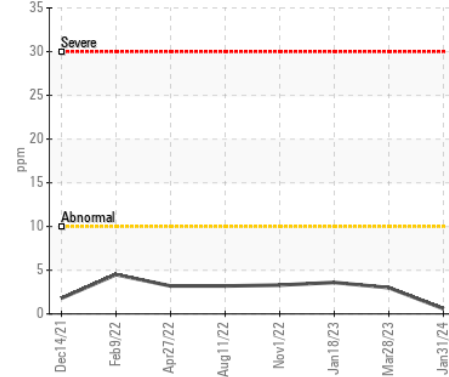
Lead (ppm)



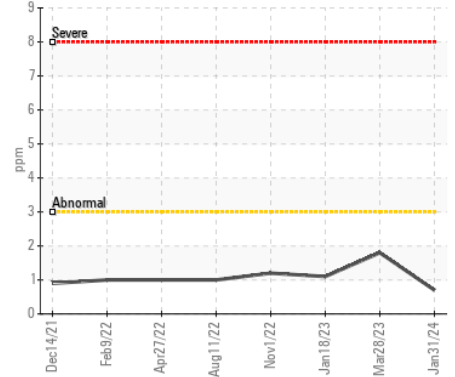
Viscosity @ 40°C



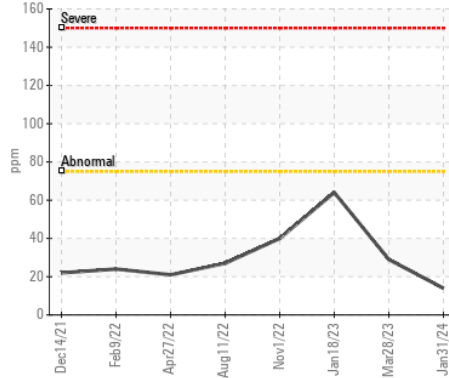
Aluminum (ppm)



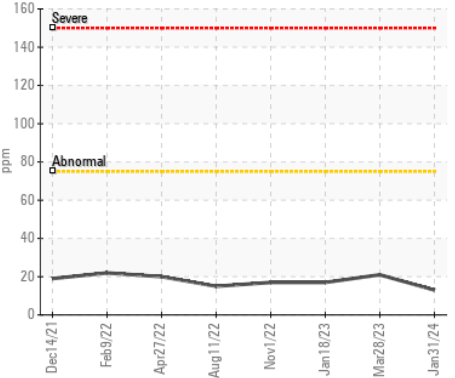
Chromium (ppm)



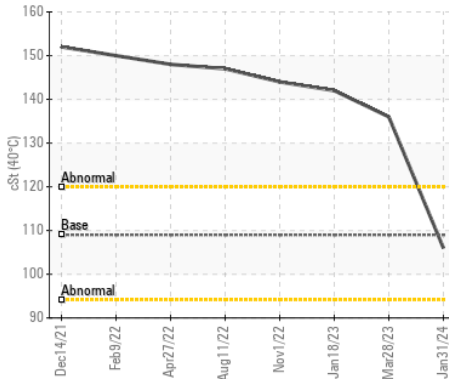
Copper (ppm)



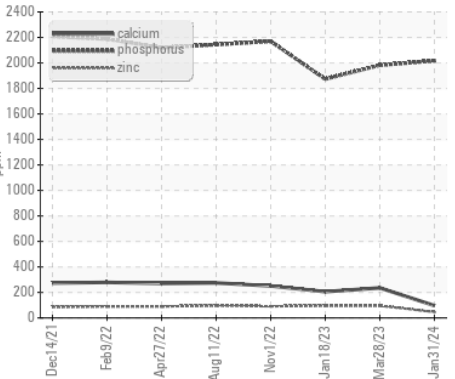
Silicon (ppm)



Viscosity @ 40°C



Additives



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0211687
Lab Number : 06084391
Unique Number : 10871836
Test Package : MOBCE

Received : 08 Feb 2024
Tested : 09 Feb 2024
Diagnosed : 12 Feb 2024 - Sean Felton

AHLSTROM-MUNKSJO NA SPECIALTY
 PO BOX 600
 KAUKAUNA, WI
 US 54130
 Contact: JOE SEITZ
 joe.seitz@ahlstrom-munksjo.com

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: