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LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL

Area
(361220)
Machine Id
LIEBHERR LH50M 134706-1216
Component
Hydraulic System
Fluid
NOT GIVEN (--- GAL)

RECOMMENDATION

Check seals and/or filters for points of contaminant entry. We advise that you check for the source of water entry. We recommend that you drain the oil from the component if this has not already been done. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

WEAR

All component wear rates are normal.

CONTAMINATION

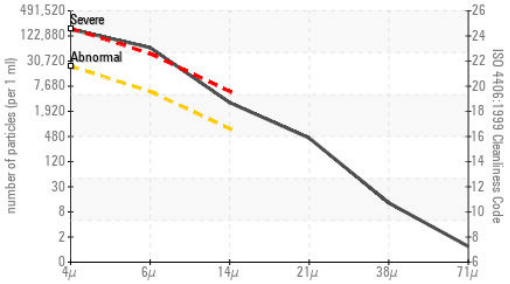
There is a high amount of particulates (2 to 100 microns in size) present in the oil. There is a moderate concentration of water present in the oil.

FLUID CONDITION

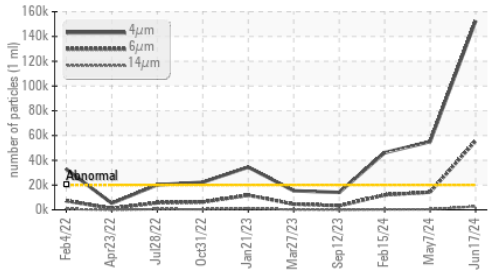
The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH	LH	LH
Sample Date		Client Info		17 Jun 2024	07 May 2024	15 Feb 2024
Machine Age	hrs	Client Info		5960	0	5100
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	Changed
Sample Status				SEVERE	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185(m)	>50	31	30	30
Chromium	ppm	ASTM D5185(m)	>5	2	2	2
Nickel	ppm	ASTM D5185(m)	>2	<1	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		<1	0	0
Aluminum	ppm	ASTM D5185(m)	>2	<1	<1	<1
Lead	ppm	ASTM D5185(m)	>4	<1	<1	<1
Copper	ppm	ASTM D5185(m)	>10	4	4	3
Tin	ppm	ASTM D5185(m)	>2	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185(m)	>17	2	<1	2
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	1
Water	%	ASTM D6304*	>0.1	▲ 0.257	---	---
ppm Water	ppm	ASTM D6304*	>1000	▲ 2573	---	---
Particles >4µm		ASTM D7647	>20000	▲ 152473	▲ 55078	▲ 46130
Particles >6µm		ASTM D7647	>5000	▲ 55673	▲ 14257	▲ 12037
Particles >14µm		ASTM D7647	>640	▲ 2723	400	332
Particles >21µm		ASTM D7647	>160	▲ 387	57	58
Particles >38µm		ASTM D7647	>40	11	1	6
Particles >71µm		ASTM D7647	>10	1	0	1
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ 24/23/19	▲ 23/21/16	▲ 23/21/16
Silt	scalar	Visual*	NONE	VLITE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	VLITE
Appearance	scalar	Visual*	NORML	▲ WGOIL	▲ WGOIL	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	▲ 1%	.5%	NEG
Sodium	ppm	ASTM D5185(m)		<1	<1	<1
Boron	ppm	ASTM D5185(m)		4	4	5
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		0	0	0
Manganese	ppm	ASTM D5185(m)		<1	<1	0
Magnesium	ppm	ASTM D5185(m)		2	2	2
Calcium	ppm	ASTM D5185(m)		417	431	495
Phosphorus	ppm	ASTM D5185(m)		665	648	668
Zinc	ppm	ASTM D5185(m)		780	783	769
Sulfur	ppm	ASTM D5185(m)		2462	2492	2834
Visc @ 40°C	cSt	ASTM D7279(m)		43.7	44.0	44.1

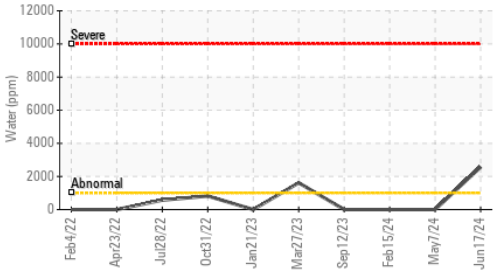
Particle Count



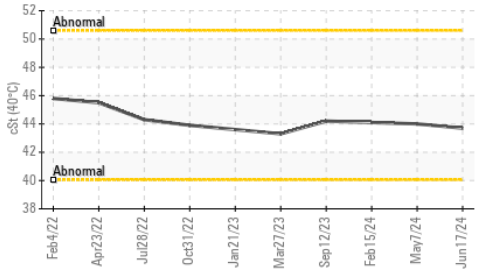
Particle Trend



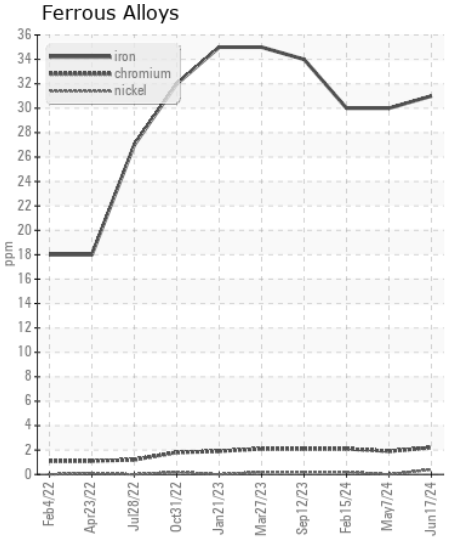
Water (KF)



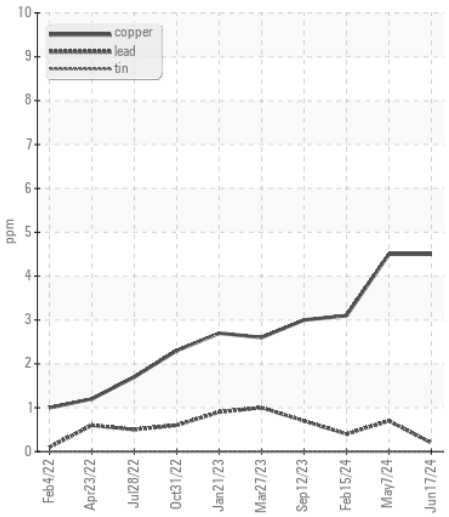
Viscosity @ 40°C



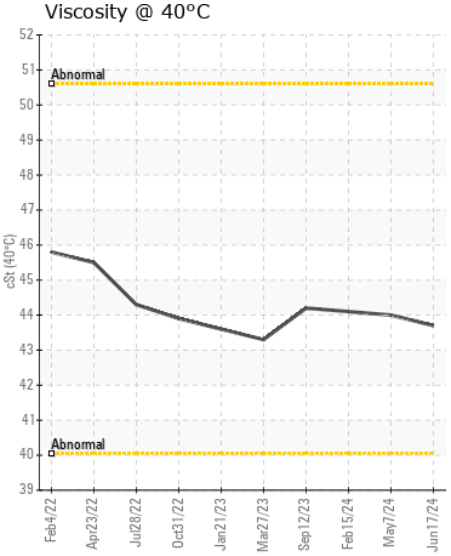
Ferrous Alloys



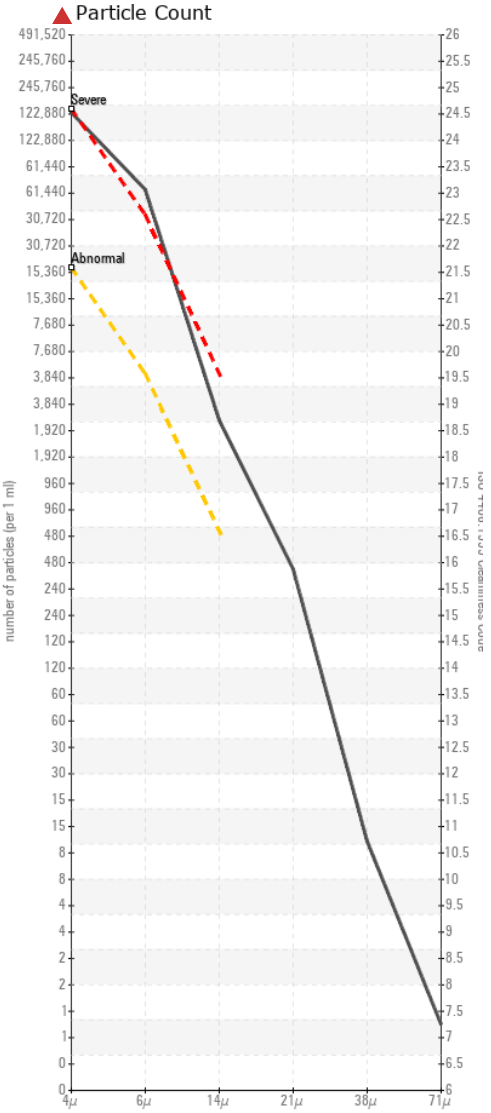
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH
Lab Number : 02642989
Unique Number : 5800528
Test Package : MOB 1 (Additional Tests: KF, PrtCount)

Received : 19 Jun 2024
Tested : 20 Jun 2024
Diagnosed : 21 Jun 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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T:
F: