



LIEBHERR

OIL ANALYSIS REPORT



Area

(358361)

Machine Id

LIEBHERR LH40M 133820-1215

Component

Swing Drive

Fluid

GEAR OIL SAE 75W90 (--- GAL)

WEAR
CONTAMINATION
FLUID CONDITION

ABNORMAL

NORMAL

NORMAL

RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) GEAR OIL SAE 75W90. Please confirm.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0289646	LH0227573	---
Sample Date		Client Info		10 Jun 2024	09 Mar 2022	---
Machine Age	hrs	Client Info		2606	509	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		None	None	---
Sample Status				ABNORMAL	NORMAL	---

WEAR

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

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184*		0	---	---
Iron	ppm	ASTM D5185(m)	>350	▲ 735	256	---
Chromium	ppm	ASTM D5185(m)	>15	5	1	---
Nickel	ppm	ASTM D5185(m)	>5	<1	<1	---
Titanium	ppm	ASTM D5185(m)		0	0	---
Silver	ppm	ASTM D5185(m)		0	<1	---
Aluminum	ppm	ASTM D5185(m)	>5	<1	<1	---
Lead	ppm	ASTM D5185(m)	>10	4	1	---
Copper	ppm	ASTM D5185(m)	>300	167	42	---
Tin	ppm	ASTM D5185(m)	>15	1	2	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
White Metal	scalar	Visual*	NONE	VLITE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---

CONTAMINATION

There is no indication of any contamination in the oil.

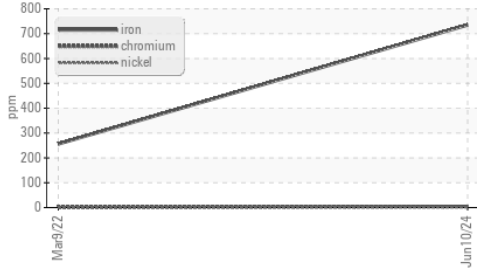
Test	UOM	Method	Limit/Abn	Current	History1	History2
Silicon	ppm	ASTM D5185(m)	>15	2	2	---
Potassium	ppm	ASTM D5185(m)	>20	1	2	---
Water		WC Method	>0.2	NEG	NEG	---
Silt	scalar	Visual*	NONE	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	---

FLUID CONDITION

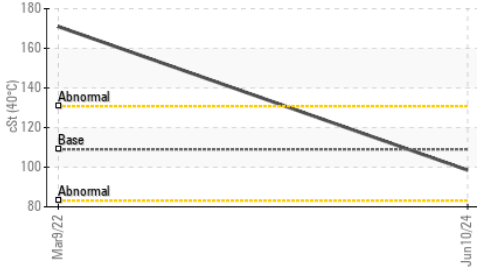
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sodium	ppm	ASTM D5185(m)		1	6	---
Boron	ppm	ASTM D5185(m)	400	233	5	---
Barium	ppm	ASTM D5185(m)	200	3	10	---
Molybdenum	ppm	ASTM D5185(m)	12	0	0	---
Manganese	ppm	ASTM D5185(m)		6	2	---
Magnesium	ppm	ASTM D5185(m)	12	1	<1	---
Calcium	ppm	ASTM D5185(m)	150	19	50	---
Phosphorus	ppm	ASTM D5185(m)	1650	1204	2336	---
Zinc	ppm	ASTM D5185(m)	125	29	14	---
Sulfur	ppm	ASTM D5185(m)	22500	19427	29915	---
Visc @ 40°C	cSt	ASTM D7279(m)	109	98.5	171	---

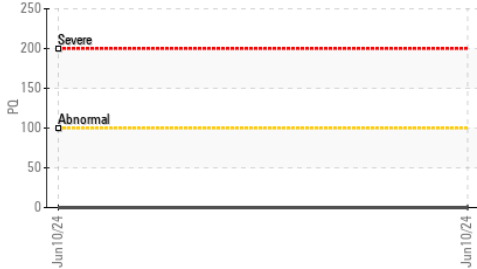
▲ Ferrous Alloys



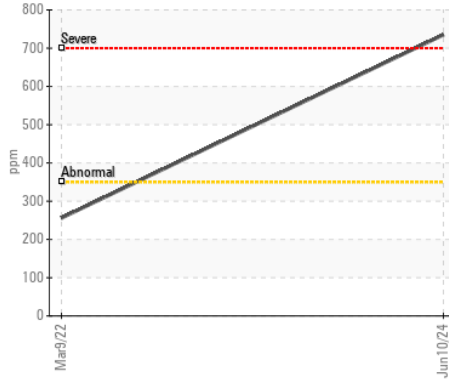
Viscosity @ 40°C



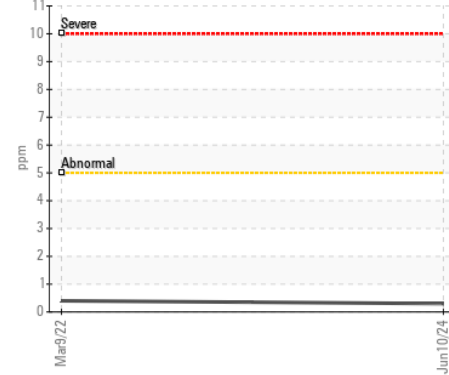
PQ



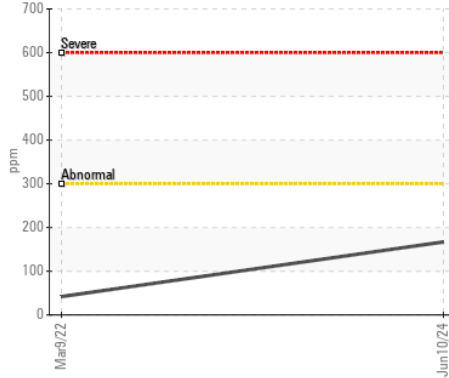
▲ Iron (ppm)



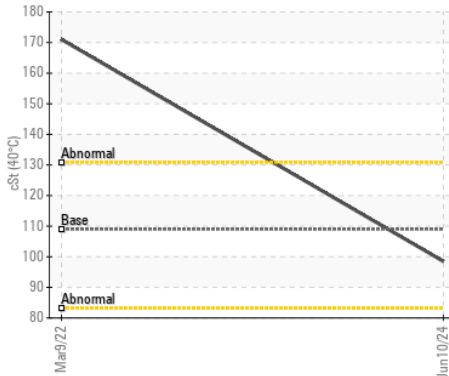
Aluminum (ppm)



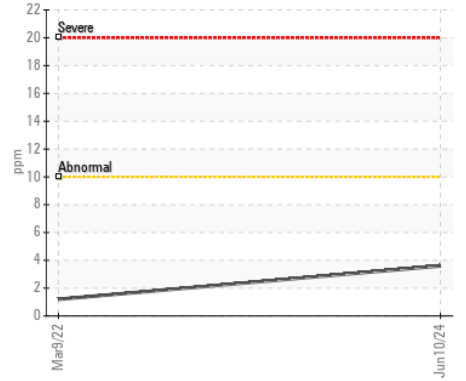
Copper (ppm)



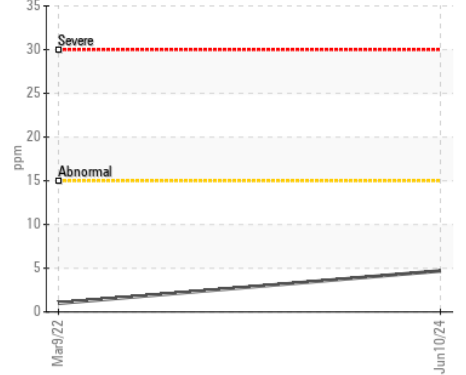
Viscosity @ 40°C



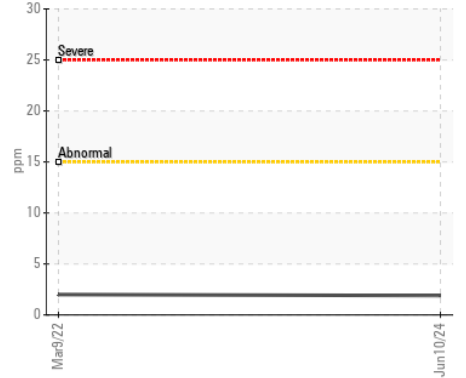
Lead (ppm)



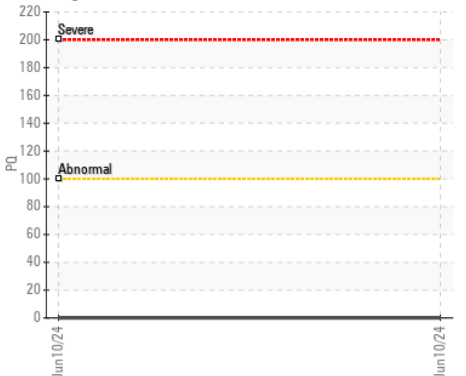
Chromium (ppm)



Silicon (ppm)



PQ



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0289646 **Received** : 11 Jun 2024
Lab Number : 02641217 **Tested** : 11 Jun 2024
Unique Number : 5798756 **Diagnosed** : 11 Jun 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: PQ)

METALOGICS INC.
 895 COLLINSON RD.
 DUNDAS, ON
 CA L9H 5E2
 Contact: Service Manager

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.

T:
F: