MOB I

LIEBHERR

OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
LIEBHERR LH50M 1216-98210
Component
Swing Drive
Fluid
GEAR OIL SAE 80W90 (--- GAL)

RECOMMENDATION

We advise that you check for the source of water entry. We advise that you check for visible metal particles in the oil. We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. An inspection for the source(s) of wear may be warranted at this time. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF).

WEAR

Copper and lead and tin ppm levels are severe. PQ levels are abnormal. Iron and chromium ppm levels are abnormal. Moderate concentration of visible metal present. Bearing and/or bushing wear is indicated. Gear wear is indicated. The high ferrous density (PQ) index indicates that abnormal wear is occurring.

CONTAMINATION

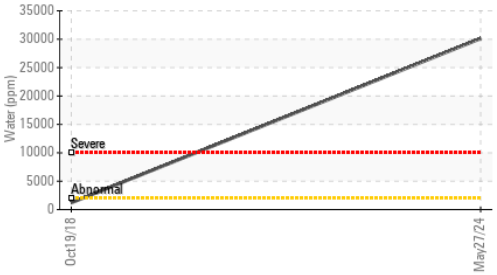
There is a high concentration of water present in the oil. There is a moderate concentration of dirt present in the oil. High amount of ingressed dirt has caused abrasive wear to the component.

FLUID CONDITION

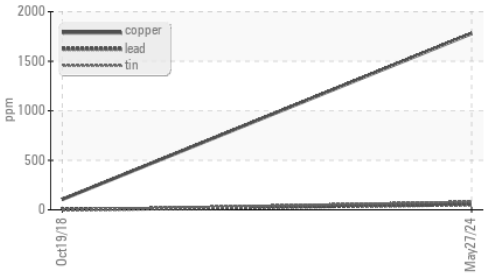
Viscosity of sample indicates oil is within SAE 80W140 range, advise investigate. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0289809	LHMC103325	---
Sample Date		Client Info		27 May 2024	19 Oct 2018	---
Machine Age	hrs	Client Info		1000	1875	---
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	N/A	---
Sample Status				SEVERE	MARGINAL	---
PQ		ASTM D8184*	>225	▲ 339	---	---
Iron	ppm	ASTM D5185(m)	>1200	▲ 2401	702	---
Chromium	ppm	ASTM D5185(m)	>15	▲ 15	7	---
Nickel	ppm	ASTM D5185(m)	>5	4	<1	---
Titanium	ppm	ASTM D5185(m)	>5	0	0	---
Silver	ppm	ASTM D5185(m)		0	0	---
Aluminum	ppm	ASTM D5185(m)	>5	<1	<1	---
Lead	ppm	ASTM D5185(m)	>8	▲ 52	<1	---
Copper	ppm	ASTM D5185(m)	>325	▲ 1780	105	---
Tin	ppm	ASTM D5185(m)	>15	▲ 81	0	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
White Metal	scalar	Visual*	NONE	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	▲ MODER	LIGHT	---
Silicon	ppm	ASTM D5185(m)	>10	▲ 14	2	---
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	---
Water	%	ASTM D6304*	>0.2	▲ 3.013	▲ 0.120	---
ppm Water	ppm	ASTM D6304*	>2000	▲ 30130	▲ 1200	---
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	▲ 1%	▲ 0.2%	---
Sodium	ppm	ASTM D5185(m)	>170	1	3	---
Boron	ppm	ASTM D5185(m)	400	6	14	---
Barium	ppm	ASTM D5185(m)	200	<1	1	---
Molybdenum	ppm	ASTM D5185(m)	12	<1	7	---
Manganese	ppm	ASTM D5185(m)		18	6	---
Magnesium	ppm	ASTM D5185(m)	12	3	7	---
Calcium	ppm	ASTM D5185(m)	150	16	40	---
Phosphorus	ppm	ASTM D5185(m)	1650	2074	696	---
Zinc	ppm	ASTM D5185(m)	125	68	37	---
Sulfur	ppm	ASTM D5185(m)	22500	26993	13593	---
Visc @ 40°C	cSt	ASTM D7279(m)	143	▲ 236	168.3	---

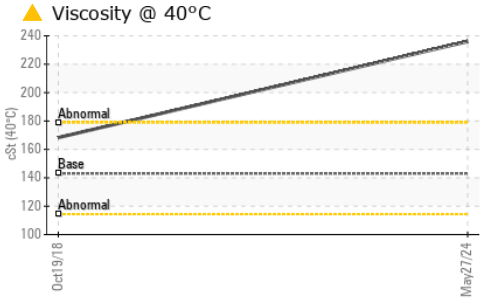
Water (KF)



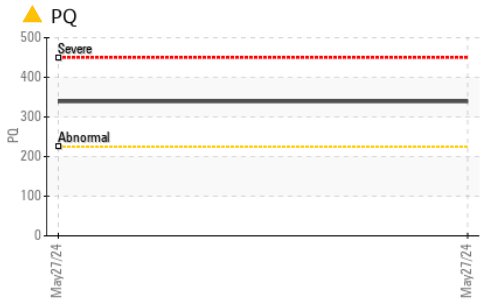
Non-ferrous Metals



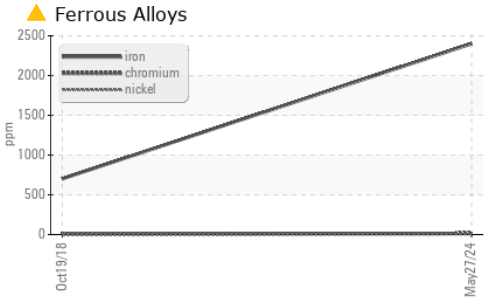
Viscosity @ 40°C



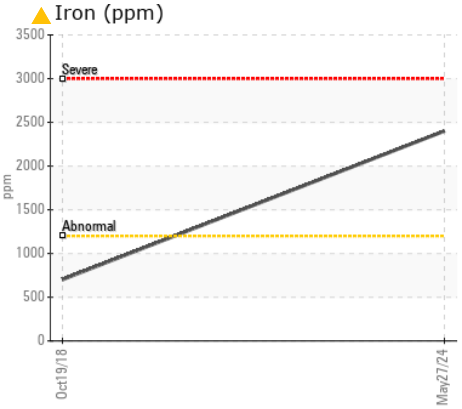
PQ



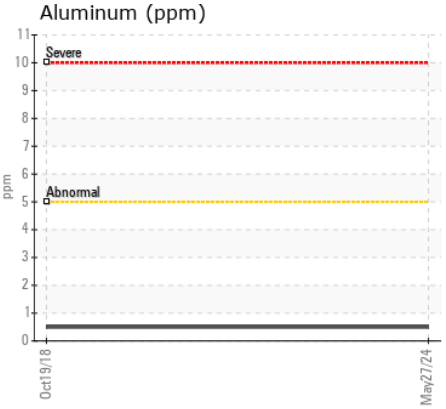
Ferrous Alloys



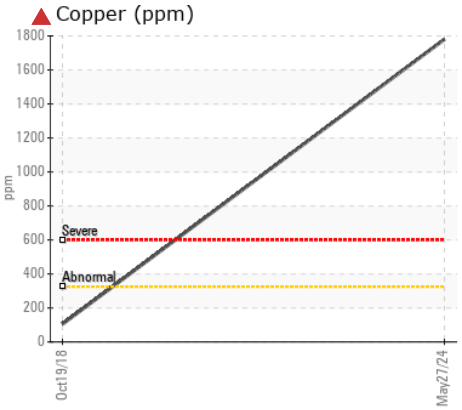
Iron (ppm)



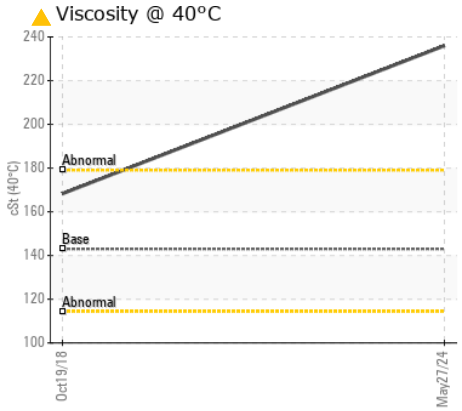
Aluminum (ppm)



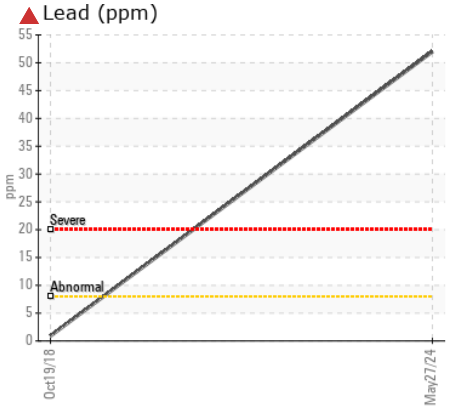
Copper (ppm)



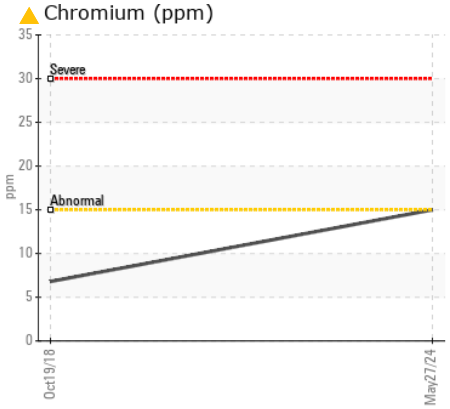
Viscosity @ 40°C



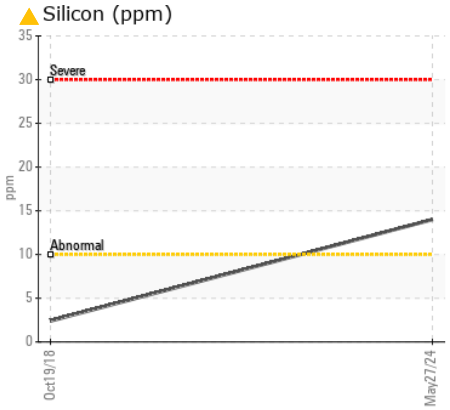
Lead (ppm)



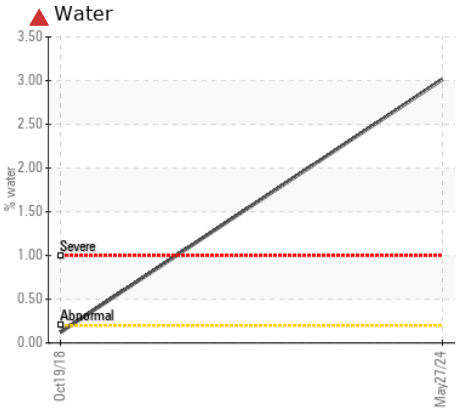
Chromium (ppm)



Silicon (ppm)



Water



CALA
ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0289809 **Received** : 04 Jun 2024
Lab Number : 02639684 **Tested** : 06 Jun 2024
Unique Number : 5788846 **Diagnosed** : 06 Jun 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: Bottom, BottomAnalysis, FilterPatch, KF, PQ)

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.

SIMS BROTHERS
1011 S. PROSPECT ST
MARION, OH
US 43302
Contact: BOB LANCE
T:
F: