



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL



Machine Id
LIEBHERR LH80M 062114-1205

Component
Diesel Engine

Fluid
{not provided} (--- GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0258322	---	---
Sample Date		Client Info		11 Mar 2024	---	---
Machine Age	hrs	Client Info		24735	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Not Chngd	---	---
Filter Changed		Client Info		Not Chngd	---	---
Sample Status				SEVERE	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	58	---	---
Chromium	ppm	ASTM D5185m	>5	2	---	---
Nickel	ppm	ASTM D5185m	>5	<1	---	---
Titanium	ppm	ASTM D5185m		2	---	---
Silver	ppm	ASTM D5185m	>3	0	---	---
Aluminum	ppm	ASTM D5185m	>15	15	---	---
Lead	ppm	ASTM D5185m	>30	<1	---	---
Copper	ppm	ASTM D5185m	>125	3	---	---
Tin	ppm	ASTM D5185m	>5	0	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

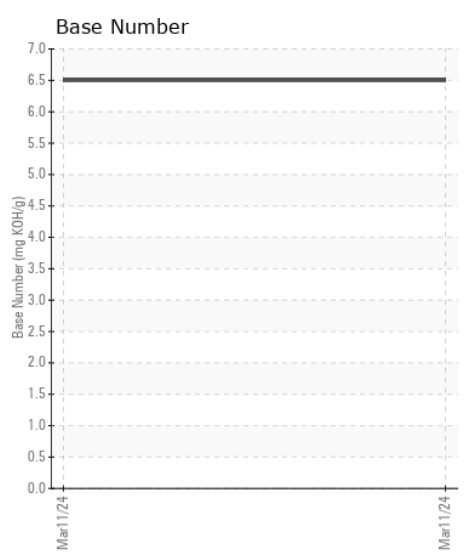
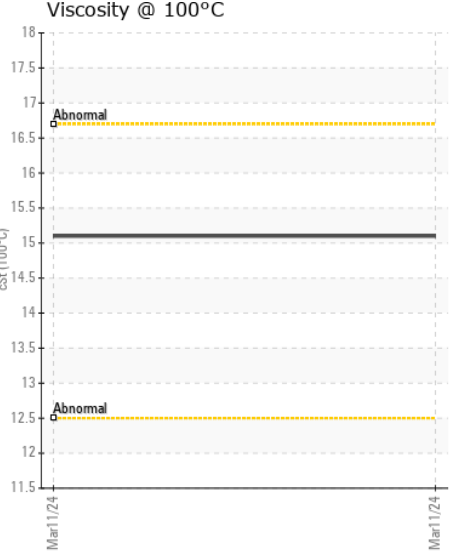
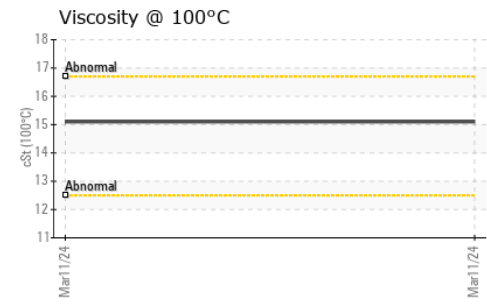
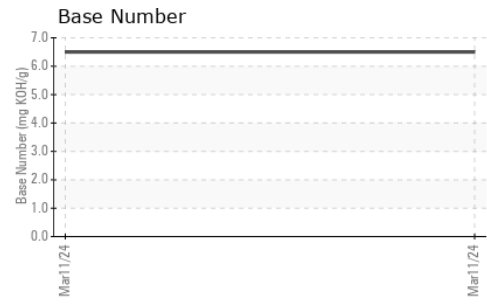
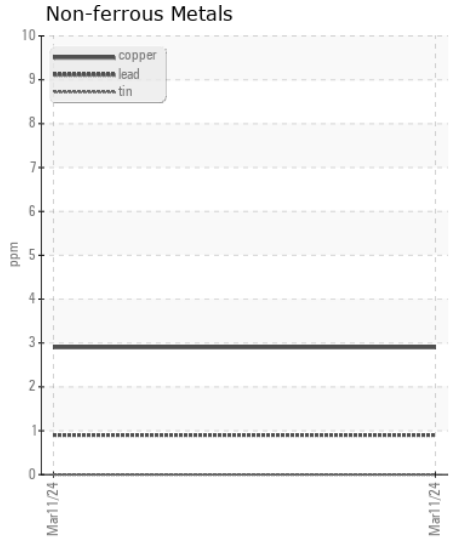
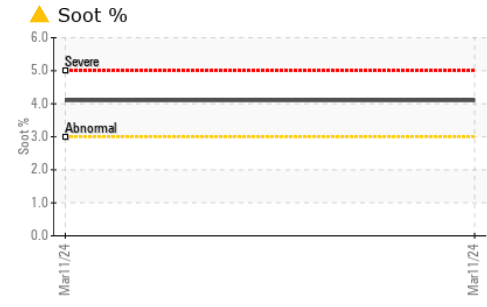
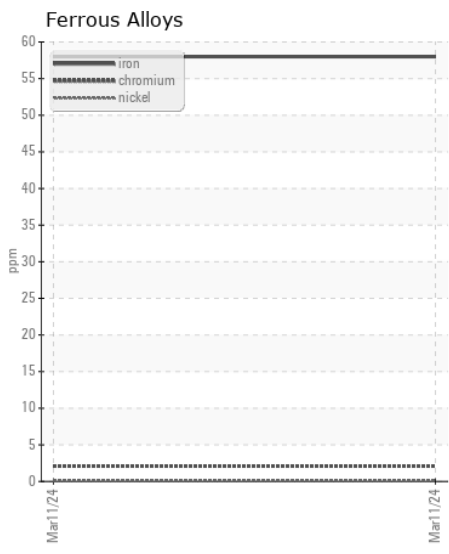
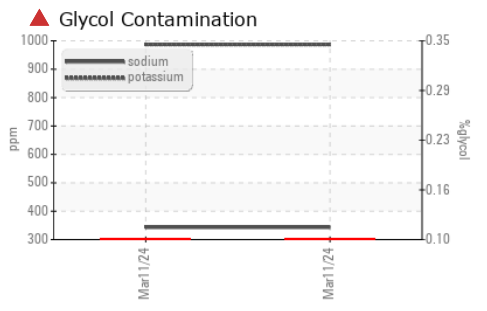
Sodium and/or potassium levels are high. Test for glycol is positive. There is an abnormal amount of solids and carbon present in the oil.

Silicon	ppm	ASTM D5185m	>60	23	---	---
Potassium	ppm	ASTM D5185m	>20	▲ 987	---	---
Fuel		WC Method	>5	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol	%	*ASTM D2982		▲ 0.10	---	---
Soot %	%	*ASTM D7844	>3	▲ 4.1	---	---
Nitration	Abs/cm	*ASTM D7624	>20	15.9	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	31.9	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
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 BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		▲ 343	---	---
Boron	ppm	ASTM D5185m		25	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		111	---	---
Manganese	ppm	ASTM D5185m		0	---	---
Magnesium	ppm	ASTM D5185m		316	---	---
Calcium	ppm	ASTM D5185m		1917	---	---
Phosphorus	ppm	ASTM D5185m		973	---	---
Zinc	ppm	ASTM D5185m		1220	---	---
Sulfur	ppm	ASTM D5185m		4034	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.7	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		6.5	---	---
Visc @ 100°C	cSt	ASTM D445		15.1	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0258322 **Received** : 20 Mar 2024
Lab Number : 06123312 **Tested** : 22 Mar 2024
Unique Number : 10937463 **Diagnosed** : 22 Mar 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: Glycol, TBN)

SEATTLE IRON
 601 S. MYRTLE STREET
 SEATTLE, WA
 US 98108
 Contact: WILLIAM BEAL

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)

T: (206)413-5209

F: