



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH50 117095-1216
Component
Diesel Engine
Fluid
LIEBHERR MOTOROIL 5W30 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH06104010	LH06072055	---
Sample Date		Client Info		24 Feb 2024	18 Dec 2023	---
Machine Age	hrs	Client Info		8681	8371	---
Oil Age	hrs	Client Info		662	0	---
Filter Age	hrs	Client Info		662	0	---
Oil Changed		Client Info		Changed	N/A	---
Filter Changed		Client Info		Changed	N/A	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>66	10	8	---
Chromium	ppm	ASTM D5185m	>4	<1	0	---
Nickel	ppm	ASTM D5185m	>4	<1	0	---
Titanium	ppm	ASTM D5185m		<1	0	---
Silver	ppm	ASTM D5185m	>3	0	0	---
Aluminum	ppm	ASTM D5185m	>8	3	2	---
Lead	ppm	ASTM D5185m	>10	0	2	---
Copper	ppm	ASTM D5185m	>74	<1	1	---
Tin	ppm	ASTM D5185m	>4	<1	<1	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	LIGHT	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

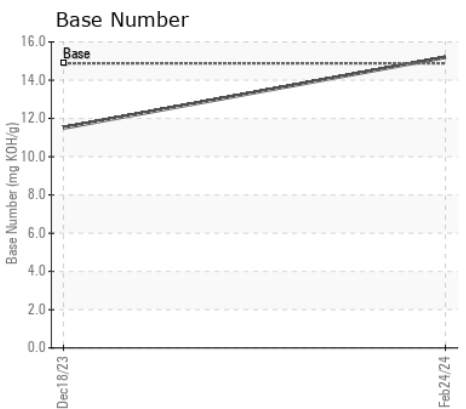
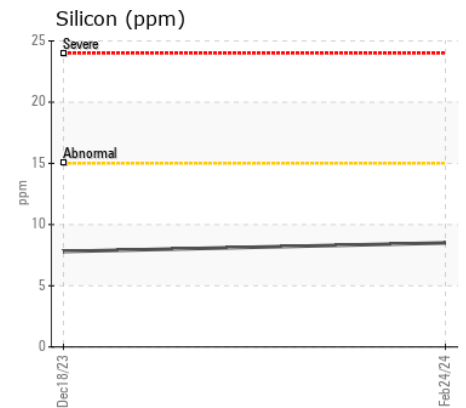
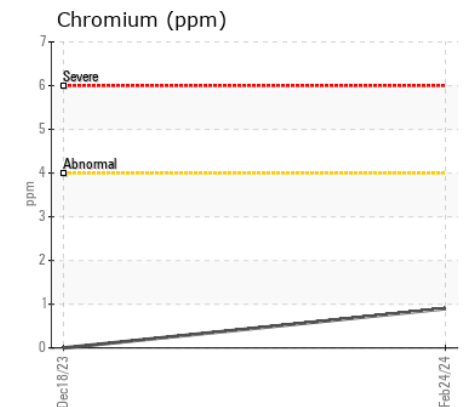
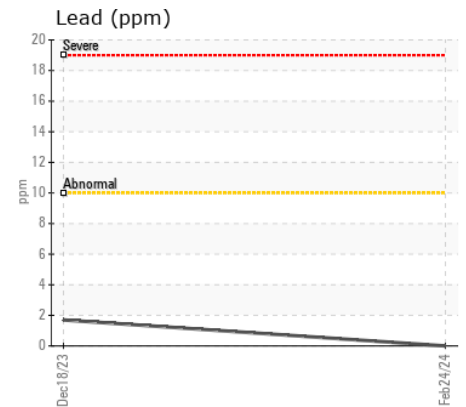
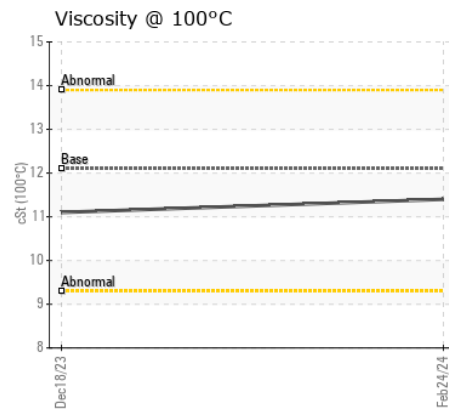
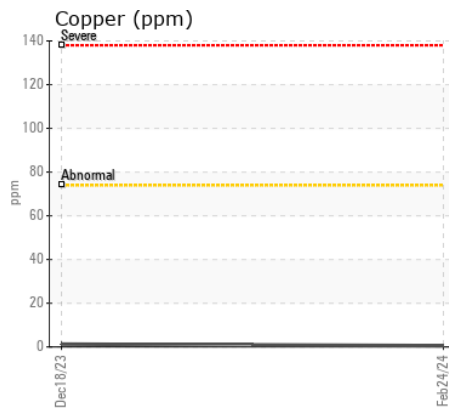
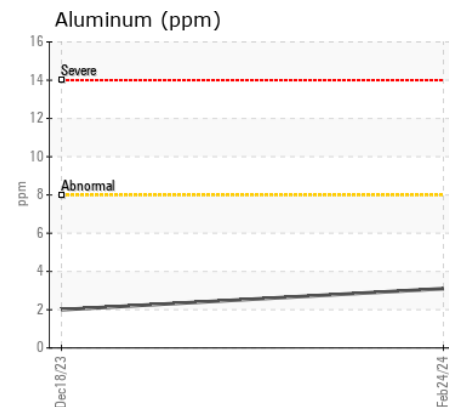
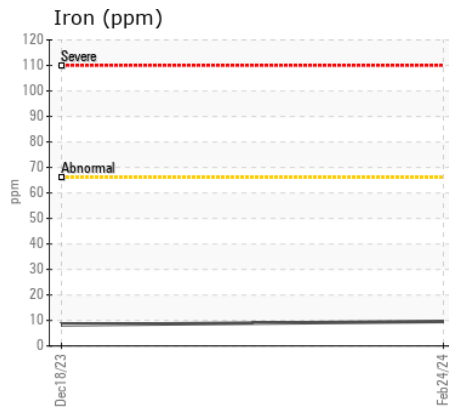
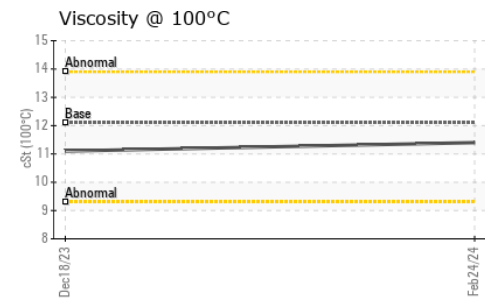
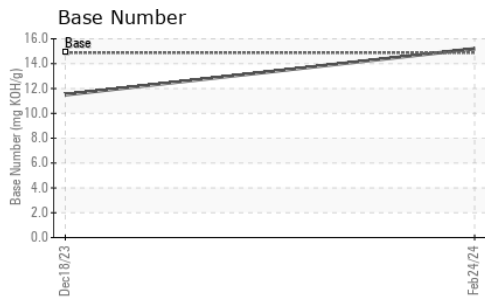
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>15	8	8	---
Potassium	ppm	ASTM D5185m	>20	1	0	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.1	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	12.4	14.2	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.3	18.3	---
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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		3	2	---
Boron	ppm	ASTM D5185m	236	232	242	---
Barium	ppm	ASTM D5185m	0	0	0	---
Molybdenum	ppm	ASTM D5185m	0	2	9	---
Manganese	ppm	ASTM D5185m	<1	<1	<1	---
Magnesium	ppm	ASTM D5185m	25	37	102	---
Calcium	ppm	ASTM D5185m	4298	4200	4082	---
Phosphorus	ppm	ASTM D5185m	1020	1058	1057	---
Zinc	ppm	ASTM D5185m	1164	1255	1205	---
Sulfur	ppm	ASTM D5185m	2460	3397	2932	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	11.3	14.3	---
Base Number (BN)	mg KOH/g	ASTM D2896	14.88	15.2	11.5	---
Visc @ 100°C	cSt	ASTM D445	12.1	11.4	11.1	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH06104010 **Received** : 29 Feb 2024
Lab Number : 06104010 **Tested** : 29 Feb 2024
Unique Number : 10902240 **Diagnosed** : 29 Feb 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: TBN)

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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)