



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH60M 1217-134513
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		LH0231550	---	---
Sample Date		Client Info		18 Apr 2024	---	---
Machine Age	hrs	Client Info		658	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				NORMAL	---	---

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>100	15	---	---
Chromium	ppm	ASTM D5185m	>5	1	---	---
Nickel	ppm	ASTM D5185m	>5	0	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>3	0	---	---
Aluminum	ppm	ASTM D5185m	>15	2	---	---
Lead	ppm	ASTM D5185m	>30	<1	---	---
Copper	ppm	ASTM D5185m	>125	75	---	---
Tin	ppm	ASTM D5185m	>5	1	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

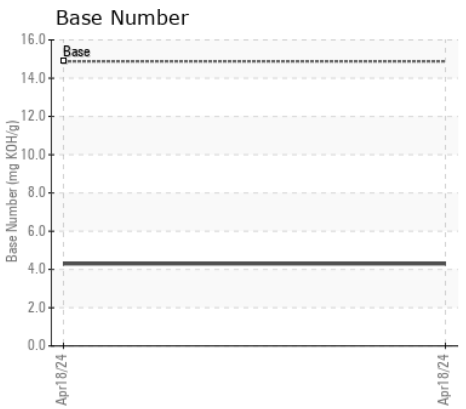
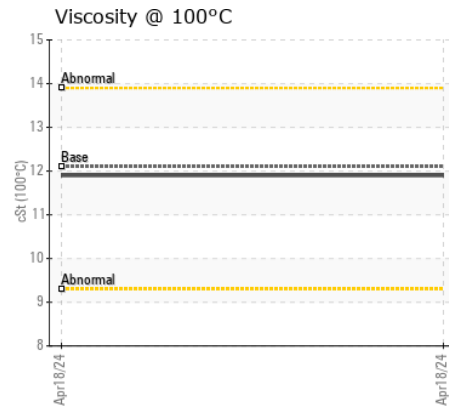
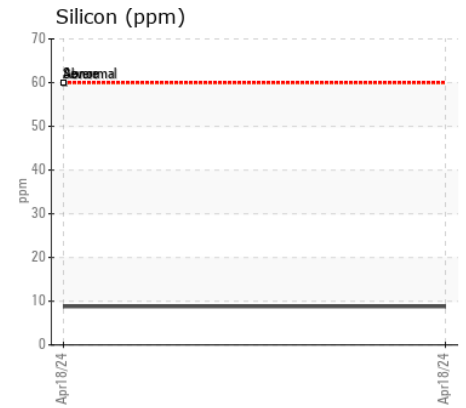
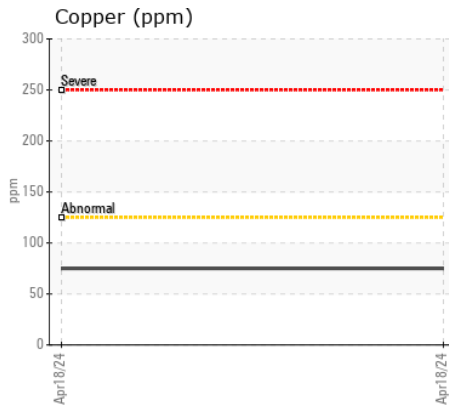
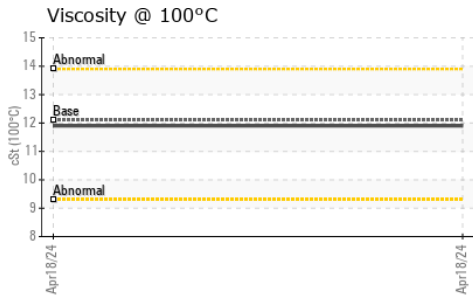
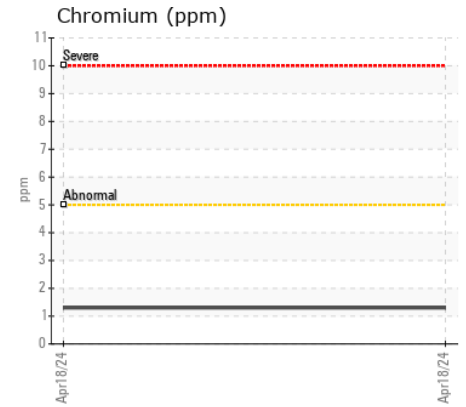
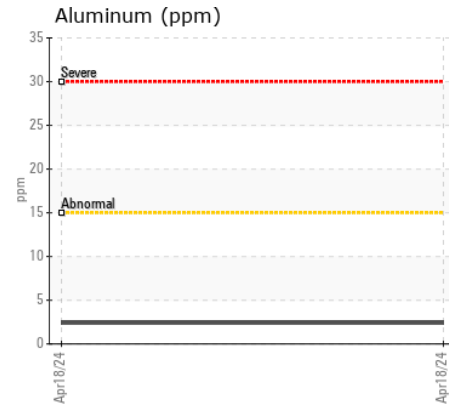
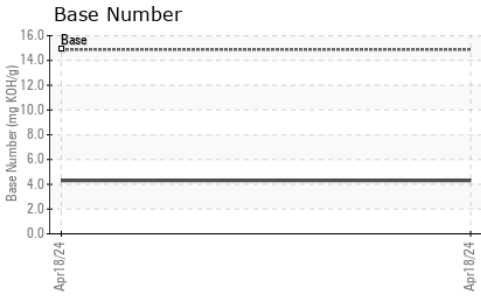
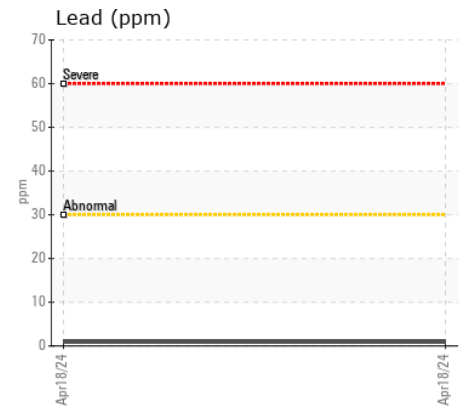
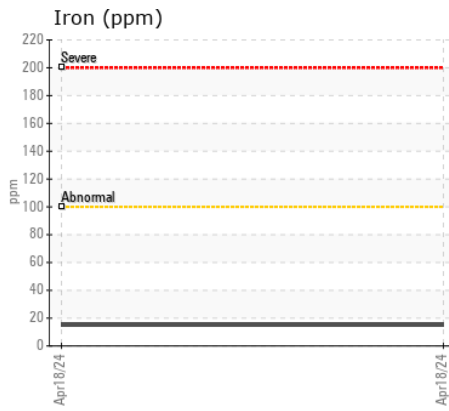
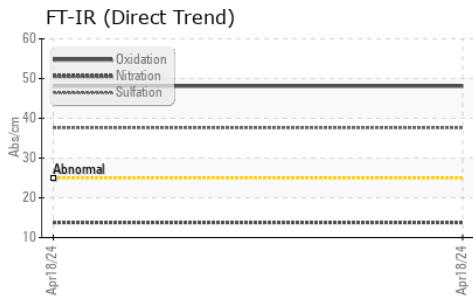
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	9	---	---
Potassium	ppm	ASTM D5185m	>20	2	---	---
Fuel		WC Method	>5	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.1	---	---
Nitration	Abs/cm	*ASTM D7624	>20	13.8	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	37.6	---	---
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 condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		4	---	---
Boron	ppm	ASTM D5185m	236	112	---	---
Barium	ppm	ASTM D5185m	0	32	---	---
Molybdenum	ppm	ASTM D5185m	0	39	---	---
Manganese	ppm	ASTM D5185m	<1	2	---	---
Magnesium	ppm	ASTM D5185m	25	759	---	---
Calcium	ppm	ASTM D5185m	4298	1846	---	---
Phosphorus	ppm	ASTM D5185m	1020	736	---	---
Zinc	ppm	ASTM D5185m	1164	916	---	---
Sulfur	ppm	ASTM D5185m	2460	2647	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	48.1	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	14.88	4.3	---	---
Visc @ 100°C	cSt	ASTM D445	12.1	11.9	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0231550 **Received** : 22 Apr 2024
Lab Number : 06155612 **Tested** : 23 Apr 2024
Unique Number : 10991035 **Diagnosed** : 24 Apr 2024 - Sean Felton
Test Package : MOBCE (Additional Tests: TBN)

JOSH STEEL COMPANY
 46 6TH ST
 BRADDOCK, PA
 US 15104
 Contact: Service Manager

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)

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F: