



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH80M 1218-157090
Component
Front Right Wheel Hub
Fluid
GEAR OIL SAE 80W90 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0282888	LH0282899	---
Sample Date		Client Info		19 Apr 2024	19 Mar 2024	---
Machine Age	hrs	Client Info		997	545	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Not Chngd	---
Filter Changed		Client Info		N/A	None	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>650	229	33	---
Chromium	ppm	ASTM D5185m	>4	1	<1	---
Nickel	ppm	ASTM D5185m	>4	<1	<1	---
Titanium	ppm	ASTM D5185m	>4	<1	0	---
Silver	ppm	ASTM D5185m		<1	0	---
Aluminum	ppm	ASTM D5185m	>25	3	<1	---
Lead	ppm	ASTM D5185m	>4	<1	0	---
Copper	ppm	ASTM D5185m	>60	7	11	---
Tin	ppm	ASTM D5185m	>4	<1	2	---
Vanadium	ppm	ASTM D5185m		<1	<1	---
White Metal	scalar	*Visual	NONE	NONE	MODER	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

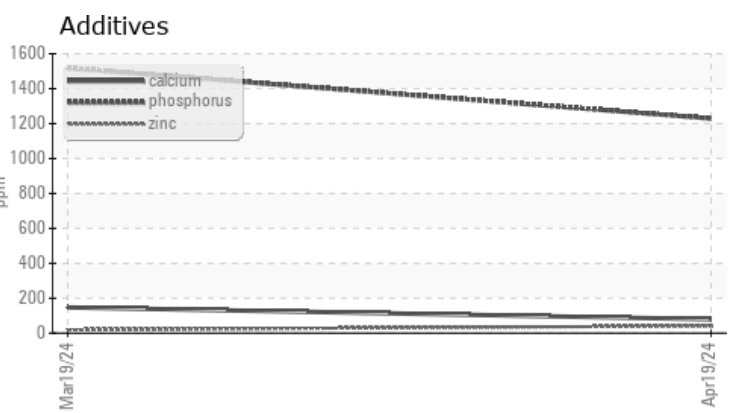
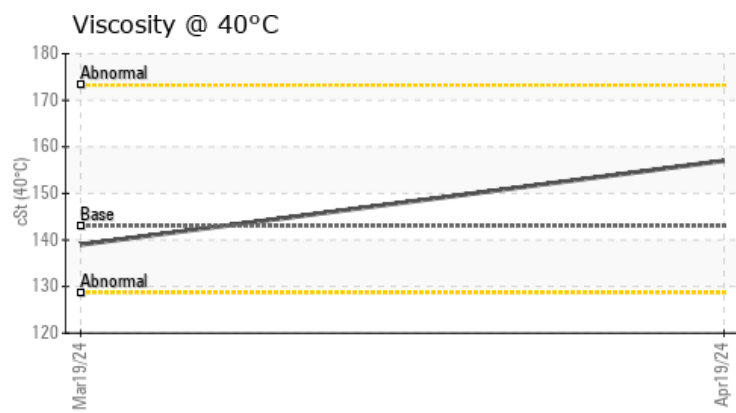
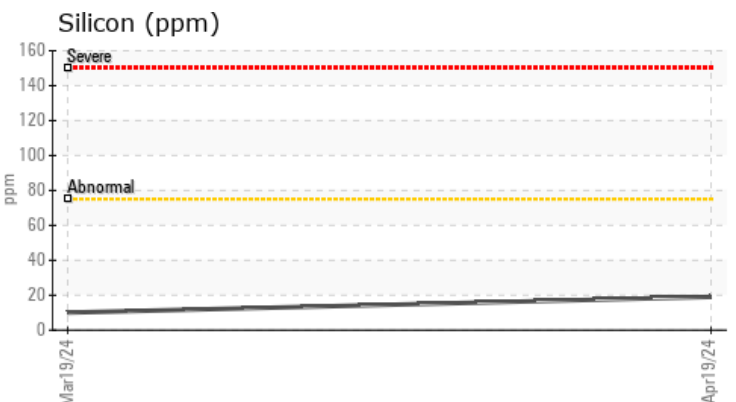
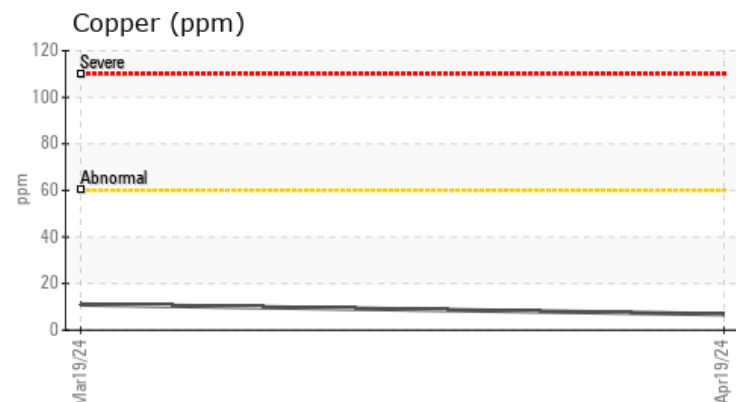
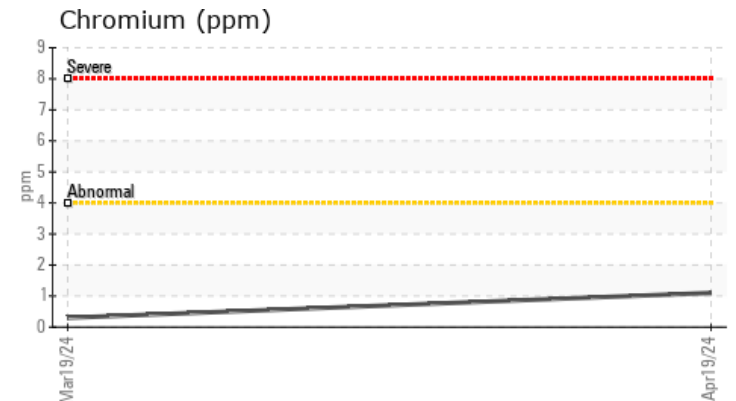
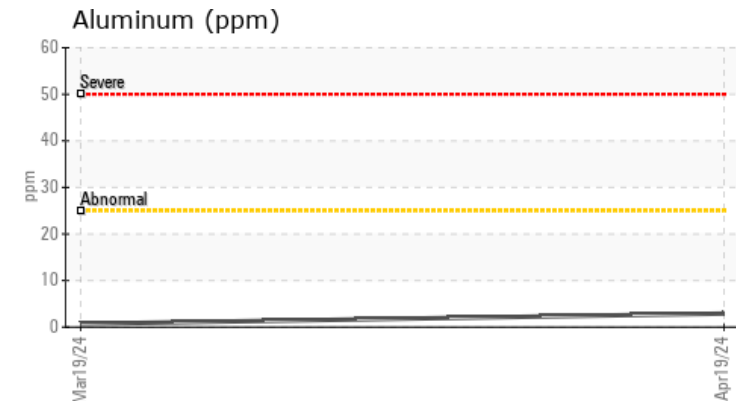
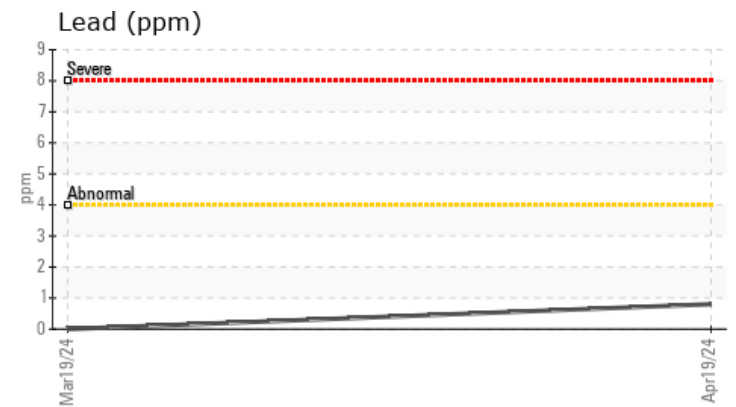
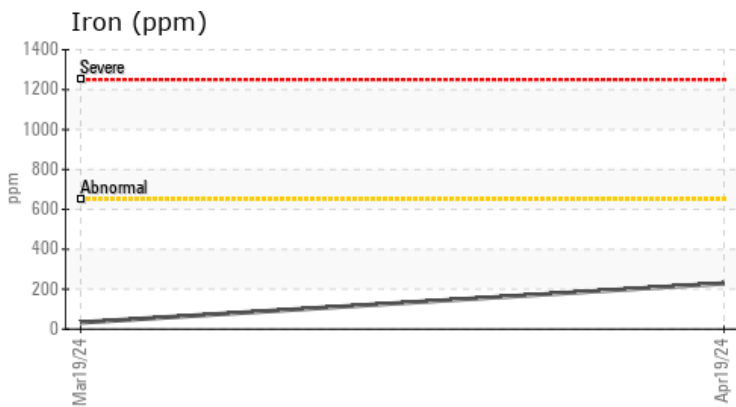
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>75	19	10	---
Potassium	ppm	ASTM D5185m	>20	3	<1	---
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 condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m	>170	10	3	---
Boron	ppm	ASTM D5185m	400	2	6	---
Barium	ppm	ASTM D5185m	200	1	3	---
Molybdenum	ppm	ASTM D5185m	12	1	1	---
Manganese	ppm	ASTM D5185m		3	1	---
Magnesium	ppm	ASTM D5185m	12	3	0	---
Calcium	ppm	ASTM D5185m	150	79	147	---
Phosphorus	ppm	ASTM D5185m	1650	1229	1518	---
Zinc	ppm	ASTM D5185m	125	41	19	---
Sulfur	ppm	ASTM D5185m	22500	21399	23915	---



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0282888
Lab Number : 06217447
Unique Number : 11090311
Test Package : MOBCE

KINDER MORGAN
 4301 IVERSON
 TRINITY, AL
 US 35601

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Contact: RICKY JOHNSON
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* - 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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