



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
141701
Component
1 Slewing Gearbox
Fluid
LIEBHERR GEAR HYPOID 90 EP (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LM0000286	LM0000371	---
Sample Date		Client Info		19 Mar 2024	06 Nov 2023	---
Machine Age	hrs	Client Info		12015	0	---
Oil Age	hrs	Client Info		1000	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	N/A	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>500	18	12	---
Chromium	ppm	ASTM D5185m	>5	<1	0	---
Nickel	ppm	ASTM D5185m	>5	0	0	---
Titanium	ppm	ASTM D5185m		0	0	---
Silver	ppm	ASTM D5185m		0	0	---
Aluminum	ppm	ASTM D5185m		1	0	---
Lead	ppm	ASTM D5185m	>5	0	0	---
Copper	ppm	ASTM D5185m	>35	<1	<1	---
Tin	ppm	ASTM D5185m	>5	0	0	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

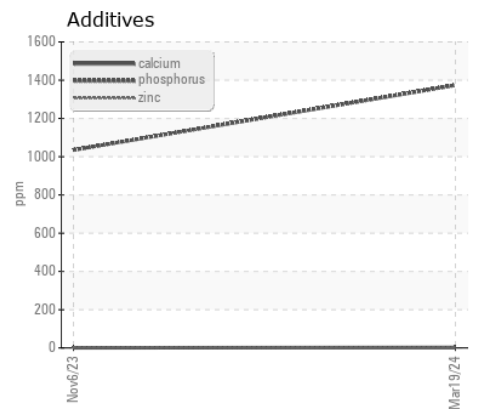
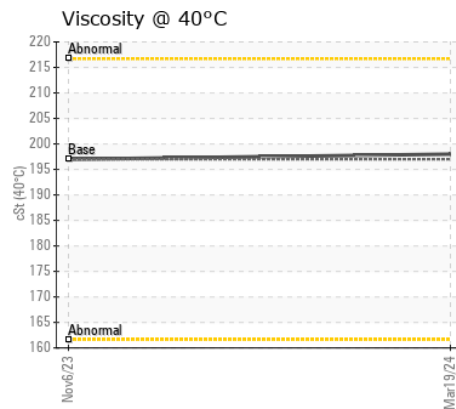
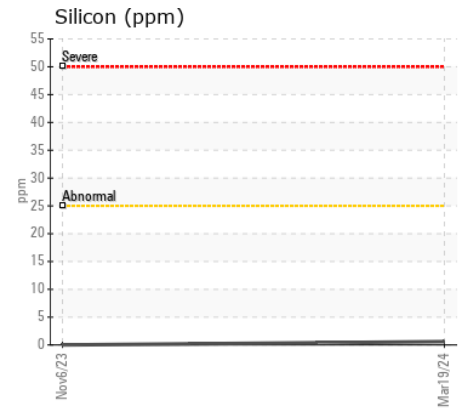
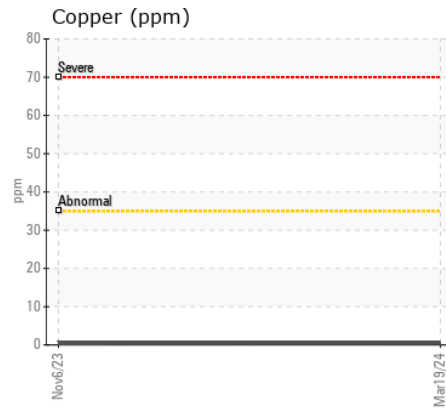
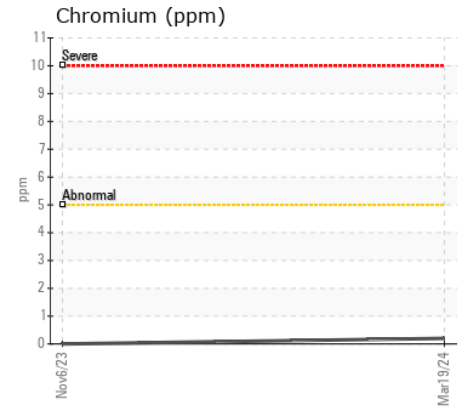
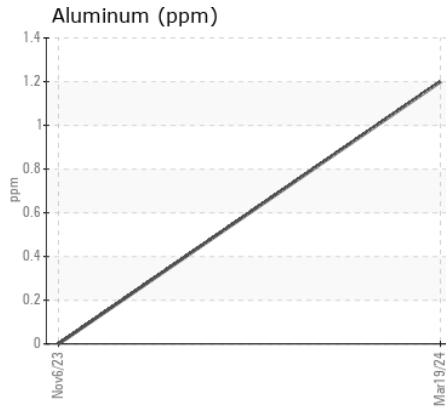
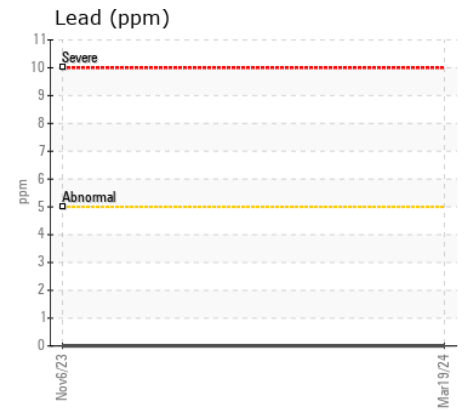
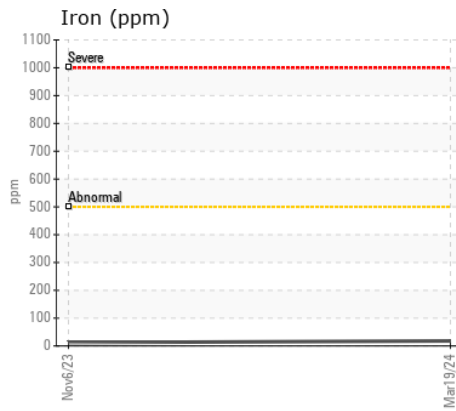
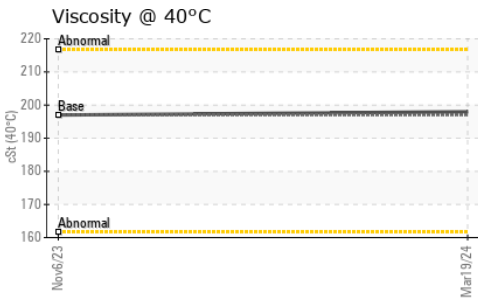
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<1	0	---
Potassium	ppm	ASTM D5185m	>20	1	0	---
Water		WC Method	>0.2	NEG	NEG	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	LIGHT	---
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		0	3	---
Boron	ppm	ASTM D5185m		0	0	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		0	0	---
Manganese	ppm	ASTM D5185m		0	0	---
Magnesium	ppm	ASTM D5185m		<1	0	---
Calcium	ppm	ASTM D5185m		3	<1	---
Phosphorus	ppm	ASTM D5185m		1374	1035	---
Zinc	ppm	ASTM D5185m		0	3	---
Sulfur	ppm	ASTM D5185m		30077	24352	---
Visc @ 40°C	cSt	ASTM D445	197	198	197	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LM0000286
Lab Number : 06151367
Unique Number : 10981445
Test Package : MOBCE

Received : 16 Apr 2024
Tested : 18 Apr 2024
Diagnosed : 19 Apr 2024 - Sean Felton

LIEBHERR USA CO - Maritime Cranes
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 HIALEAH GARDENS, FL
 US 33018

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F:

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)