



LIEBHERR

OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
145374
Component
Right Steering
Fluid
LIEBHERR GEAR BASIC 90 LS (--- GAL)

RECOMMENDATION

The fluid change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

WEAR

The iron level is severe.

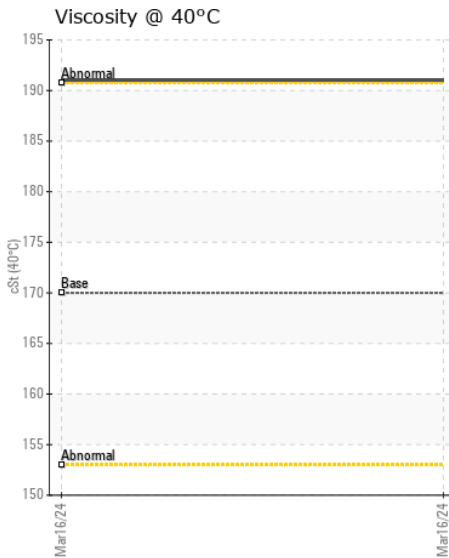
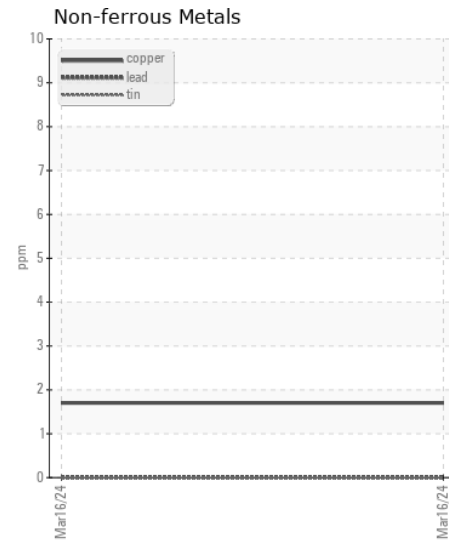
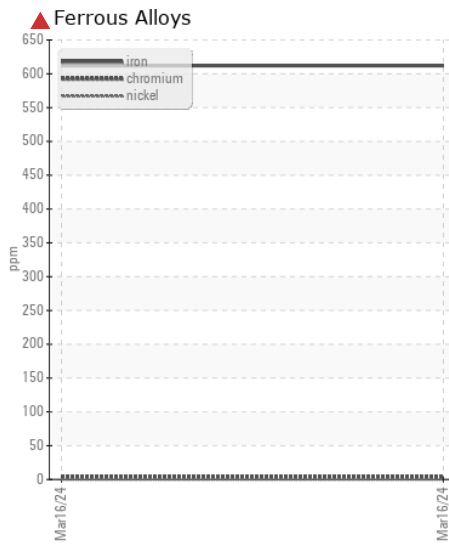
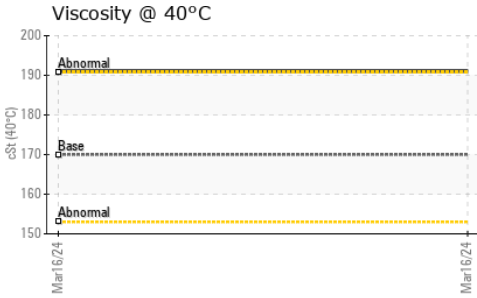
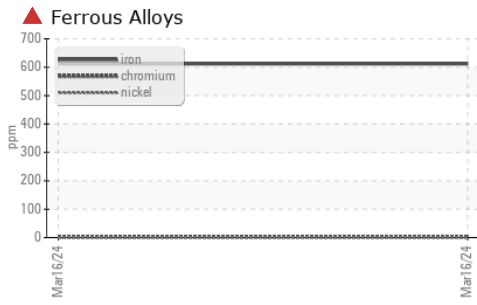
CONTAMINATION

There is no indication of any contamination in the fluid.

FLUID CONDITION

The fluid is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LM0001042	---	---
Sample Date		Client Info		16 Mar 2024	---	---
Machine Age	hrs	Client Info		5931	---	---
Oil Age	hrs	Client Info		1000	---	---
Filter Age	hrs	Client Info		1000	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				SEVERE	---	---
Iron	ppm	ASTM D5185m	>60	▲ 612	---	---
Chromium	ppm	ASTM D5185m	>12	3	---	---
Nickel	ppm	ASTM D5185m	>6	0	---	---
Titanium	ppm	ASTM D5185m		0	---	---
Silver	ppm	ASTM D5185m		0	---	---
Aluminum	ppm	ASTM D5185m	>4	0	---	---
Lead	ppm	ASTM D5185m	>12	0	---	---
Copper	ppm	ASTM D5185m	>30	2	---	---
Tin	ppm	ASTM D5185m		0	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---
Silicon	ppm	ASTM D5185m	>10	4	---	---
Potassium	ppm	ASTM D5185m	>20	0	---	---
Water		WC Method		NEG	---	---
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		NEG	---	---
Sodium	ppm	ASTM D5185m		2	---	---
Boron	ppm	ASTM D5185m	0	0	---	---
Barium	ppm	ASTM D5185m	0	0	---	---
Molybdenum	ppm	ASTM D5185m	0	0	---	---
Manganese	ppm	ASTM D5185m	0	5	---	---
Magnesium	ppm	ASTM D5185m	<1	0	---	---
Calcium	ppm	ASTM D5185m	<1	10	---	---
Phosphorus	ppm	ASTM D5185m	2143	2387	---	---
Zinc	ppm	ASTM D5185m	<1	4	---	---
Sulfur	ppm	ASTM D5185m	23468	32139	---	---
Visc @ 40°C	cSt	ASTM D445	170	191	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LM0001042
Lab Number : 06124413
Unique Number : 10938564
Test Package : CONST

Received : 20 Mar 2024
Tested : 21 Mar 2024
Diagnosed : 23 Mar 2024 - Don Baldrige

LIEBHERR USA CO - Maritime Cranes
 15101 NW 112TH AVE
 HIALEAH GARDENS, FL
 US 33018
 Contact: RONNY FUNK
 ronny.funk@liebherr.com
 T: (305)817-7566
 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)