



OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
142001 - HOLDING

Component
Winch
Fluid
LIEBHERR GEAR HYPOID 90 EP (--- GAL)

DIAGNOSIS

▲ Recommendation

The oil change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

▲ Wear

The iron level is abnormal. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		LM0000707	---	---
Sample Date	Client Info		11 Jan 2024	---	---
Machine Age	hrs	Client Info	517	---	---
Oil Age	hrs	Client Info	517	---	---
Oil Changed	Client Info		Changed	---	---
Sample Status			ABNORMAL	---	---

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	NEG	---	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	▲ 163	---	---
Chromium	ppm	ASTM D5185m >10	2	---	---
Nickel	ppm	ASTM D5185m >10	<1	---	---
Titanium	ppm	ASTM D5185m	<1	---	---
Silver	ppm	ASTM D5185m	0	---	---
Aluminum	ppm	ASTM D5185m >5	1	---	---
Lead	ppm	ASTM D5185m >15	1	---	---
Copper	ppm	ASTM D5185m >80	5	---	---
Tin	ppm	ASTM D5185m	<1	---	---
Vanadium	ppm	ASTM D5185m	0	---	---
Cadmium	ppm	ASTM D5185m	0	---	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	---	---
Barium	ppm	ASTM D5185m	2	---	---
Molybdenum	ppm	ASTM D5185m	0	---	---
Manganese	ppm	ASTM D5185m	2	---	---
Magnesium	ppm	ASTM D5185m	2	---	---
Calcium	ppm	ASTM D5185m	74	---	---
Phosphorus	ppm	ASTM D5185m	935	---	---
Zinc	ppm	ASTM D5185m	136	---	---
Sulfur	ppm	ASTM D5185m	21493	---	---

CONTAMINANTS

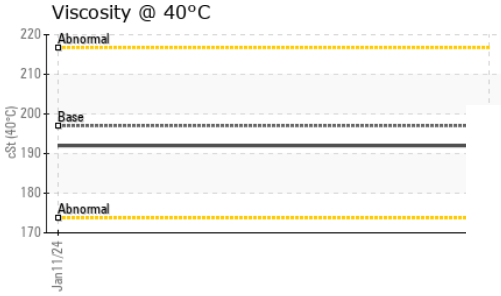
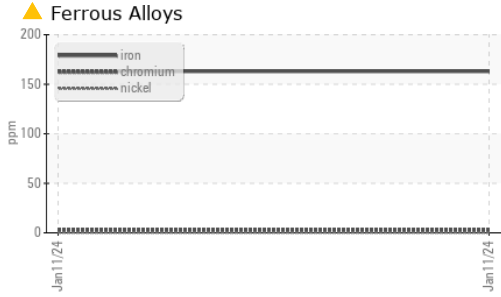
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	4	---	---
Sodium	ppm	ASTM D5185m	3	---	---
Potassium	ppm	ASTM D5185m >20	2	---	---

VISUAL

	method	limit/base	current	history1	history2
White Metal	scalar	*Visual NONE	NONE	---	---
Yellow Metal	scalar	*Visual NONE	NONE	---	---
Precipitate	scalar	*Visual NONE	NONE	---	---
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	---	---
Free Water	scalar	*Visual	NEG	---	---



OIL ANALYSIS REPORT



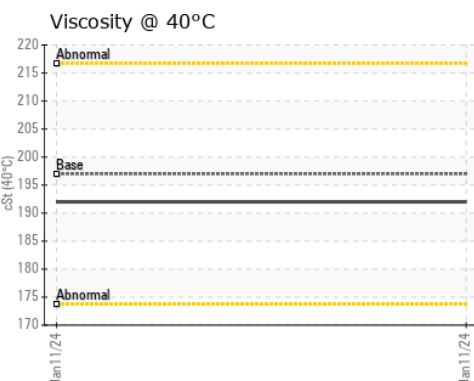
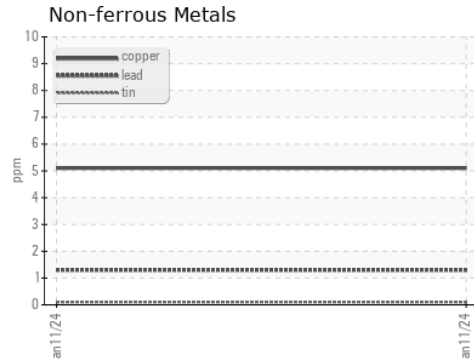
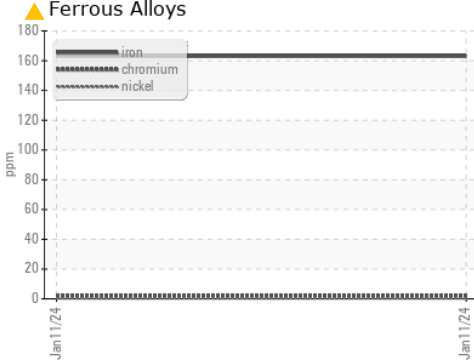
FLUID PROPERTIES

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 197	192	---	---

SAMPLE IMAGES

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color			no image	no image	no image
Bottom			no image	no image	no image

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LM0000707 **Received** : 18 Jan 2024
Lab Number : 06065222 **Diagnosed** : 22 Jan 2024
Unique Number : 10836604 **Diagnostician** : Sean Felton
Test Package : CONST

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)