



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ATTENTION



Machine Id
LIEBHERR LH110 155976-1227
Component
Transmission (Manual)
Fluid
GEAR OIL SAE 80W90 (--- GAL)

RECOMMENDATION

The fluid change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0267556	---	---
Sample Date		Client Info		12 May 2024	---	---
Machine Age	hrs	Client Info		1951	---	---
Oil Age	hrs	Client Info		956	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				ABNORMAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	10	---	---
Chromium	ppm	ASTM D5185m	>5	<1	---	---
Nickel	ppm	ASTM D5185m	>5	0	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>7	<1	---	---
Aluminum	ppm	ASTM D5185m	>25	<1	---	---
Lead	ppm	ASTM D5185m	>45	0	---	---
Copper	ppm	ASTM D5185m	>225	1	---	---
Tin	ppm	ASTM D5185m	>10	0	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

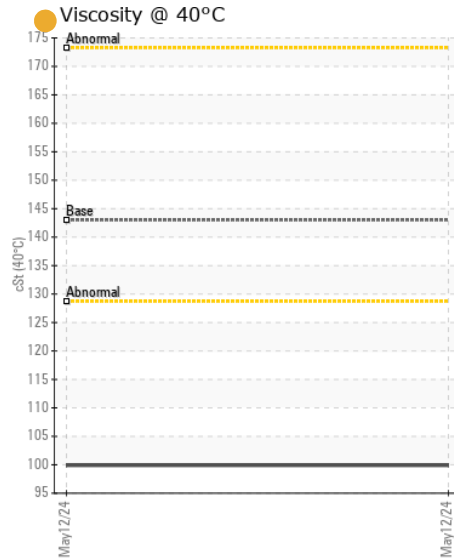
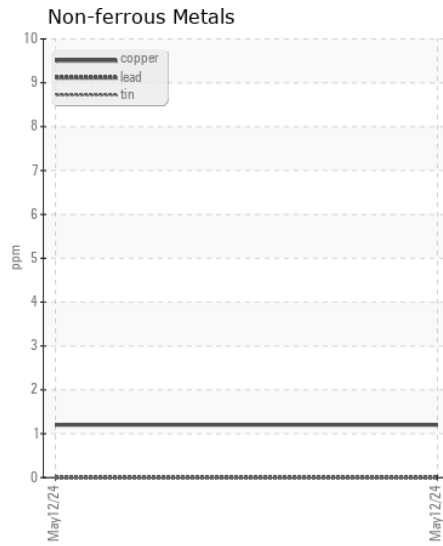
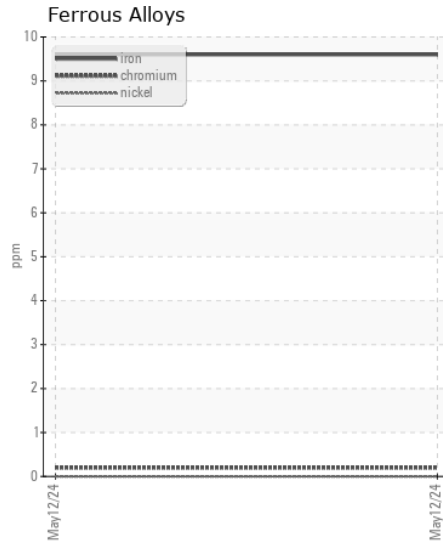
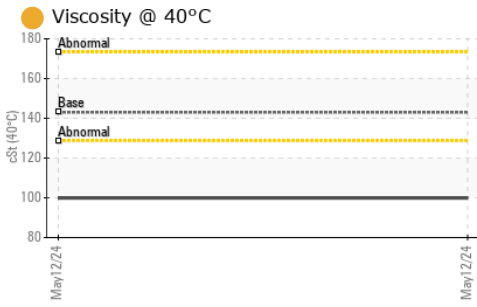
There is a moderate amount of visible silt present in the sample.

Silicon	ppm	ASTM D5185m	>125	2	---	---
Potassium	ppm	ASTM D5185m	>20	2	---	---
Water		WC Method	>0.1	NEG	---	---
Silt	scalar	*Visual	NONE	▲ MODER	---	---
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	>0.1	NEG	---	---

FLUID CONDITION

The fluid viscosity is lower than normal.

Sodium	ppm	ASTM D5185m	>170	1	---	---
Boron	ppm	ASTM D5185m	400	3	---	---
Barium	ppm	ASTM D5185m	200	0	---	---
Molybdenum	ppm	ASTM D5185m	12	3	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m	12	14	---	---
Calcium	ppm	ASTM D5185m	150	229	---	---
Phosphorus	ppm	ASTM D5185m	1650	629	---	---
Zinc	ppm	ASTM D5185m	125	105	---	---
Sulfur	ppm	ASTM D5185m	22500	14319	---	---
Visc @ 40°C	cSt	ASTM D445	143	● 99.9	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0267556
Lab Number : 06192636
Unique Number : 11049388
Test Package : CONST

Received : 28 May 2024
Tested : 30 May 2024
Diagnosed : 30 May 2024 - Don Baldrige

KINDER MORGAN
 4301 IVERSON
 TRINITY, AL
 US 35601

Contact: RICKY JOHNSON
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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)

F: (256)355-5250