



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH110 155976-1227
Component
Hydraulic System
Fluid
TDH (--- GAL)

RECOMMENDATION

The filter 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		LH0280573	---	---
Sample Date		Client Info		23 Feb 2024	---	---
Machine Age	hrs	Client Info		995	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Not Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ATTENTION	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>60	12	---	---
Chromium	ppm	ASTM D5185m	>40	1	---	---
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	>5	<1	---	---
Copper	ppm	ASTM D5185m	>15	2	---	---
Tin	ppm	ASTM D5185m	>5	<1	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

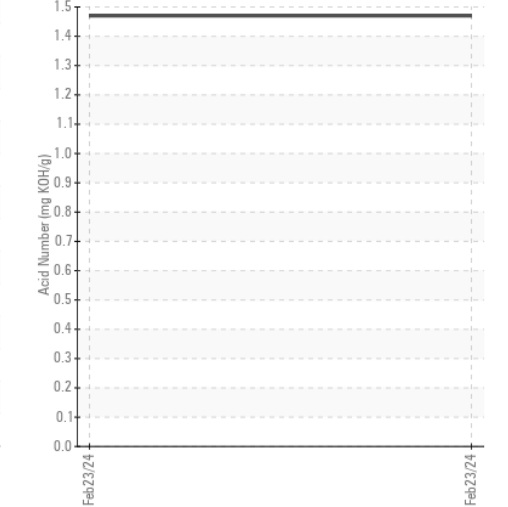
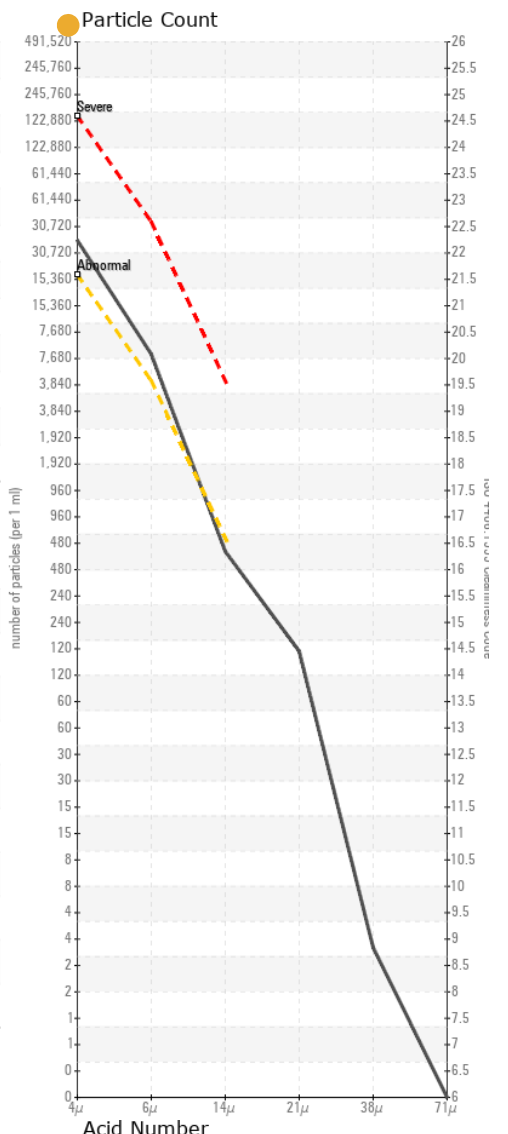
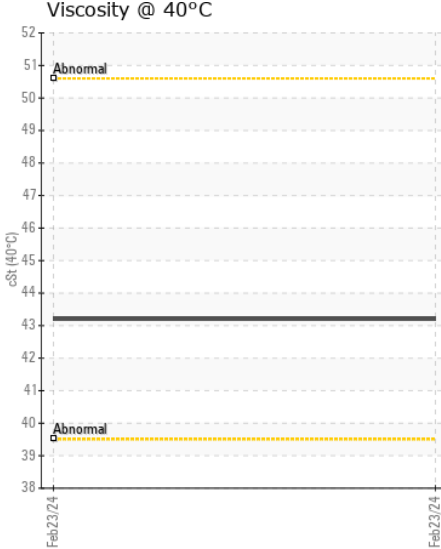
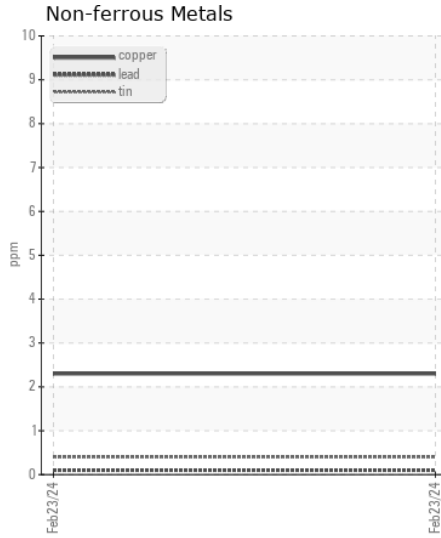
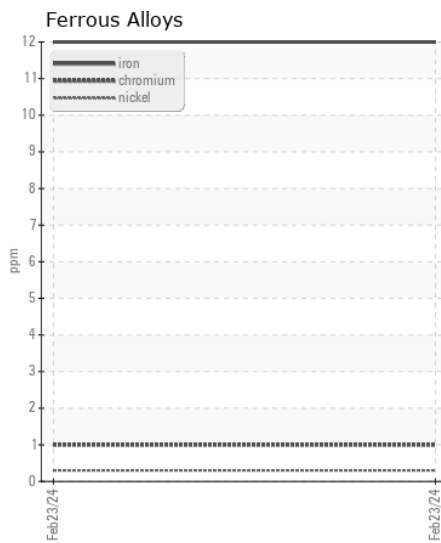
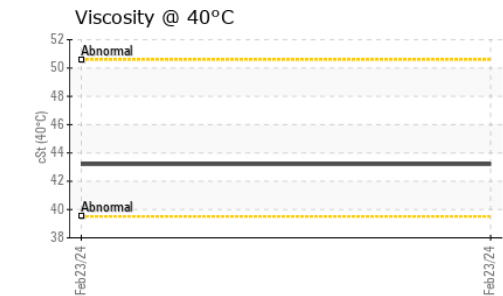
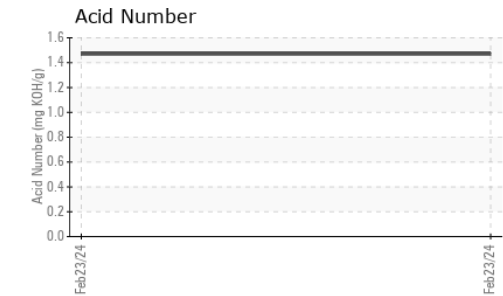
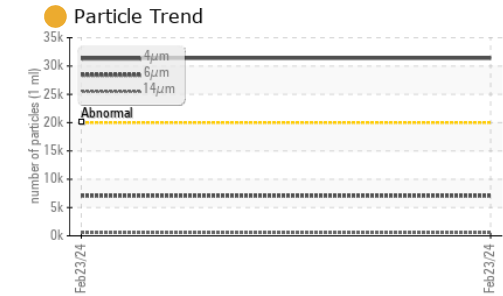
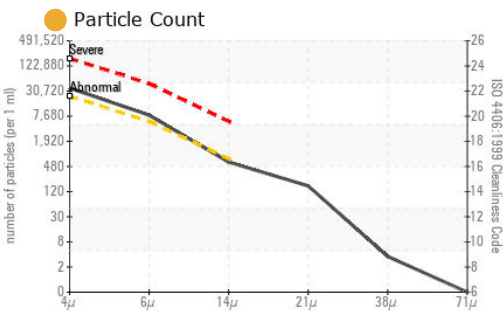
There is a light amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>15	7	---	---
Potassium	ppm	ASTM D5185m	>20	2	---	---
Water		WC Method	>0.1	NEG	---	---
Particles >4µm		ASTM D7647	>20000	31382	---	---
Particles >6µm		ASTM D7647	>5000	7078	---	---
Particles >14µm		ASTM D7647	>640	536	---	---
Particles >21µm		ASTM D7647	>160	145	---	---
Particles >38µm		ASTM D7647	>40	3	---	---
Particles >71µm		ASTM D7647	>10	0	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	22/20/16	---	---
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	>0.1	NEG	---	---

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<1	---	---
Boron	ppm	ASTM D5185m		4	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		2	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		15	---	---
Calcium	ppm	ASTM D5185m		1503	---	---
Phosphorus	ppm	ASTM D5185m		669	---	---
Zinc	ppm	ASTM D5185m		784	---	---
Sulfur	ppm	ASTM D5185m		4438	---	---
Acid Number (AN)	mg KOH/g	ASTM D8045		1.47	---	---
Visc @ 40°C	cSt	ASTM D445		43.2	---	---



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0280573 **Received** : 29 Feb 2024
Lab Number : 06104271 **Tested** : 01 Mar 2024
Unique Number : 10902501 **Diagnosed** : 01 Mar 2024 - Wes Davis
Test Package : MOBCE

KINDER MORGAN
 4301 IVERSON
 TRINITY, AL
 US 35601
 Contact: CHIP OAKES

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)

T: (256)350-0006
 F: (256)355-5250