



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR TA230 139463-1513
Component
Hydraulic System
Fluid
TOTAL BIOHYDRAN SE 46 (--- LTR)

RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill.
Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH	LH0260955	---
Sample Date		Client Info		18 Apr 2024	17 Apr 2023	---
Machine Age	hrs	Client Info		2343	1310	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>20	<1	1	---
Chromium	ppm	ASTM D5185(m)	>10	0	0	---
Nickel	ppm	ASTM D5185(m)	>10	0	0	---
Titanium	ppm	ASTM D5185(m)		0	<1	---
Silver	ppm	ASTM D5185(m)		0	0	---
Aluminum	ppm	ASTM D5185(m)	>10	0	<1	---
Lead	ppm	ASTM D5185(m)	>10	0	<1	---
Copper	ppm	ASTM D5185(m)	>75	<1	1	---
Tin	ppm	ASTM D5185(m)	>10	0	<1	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
White Metal	scalar	Visual*	NONE	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---

CONTAMINATION

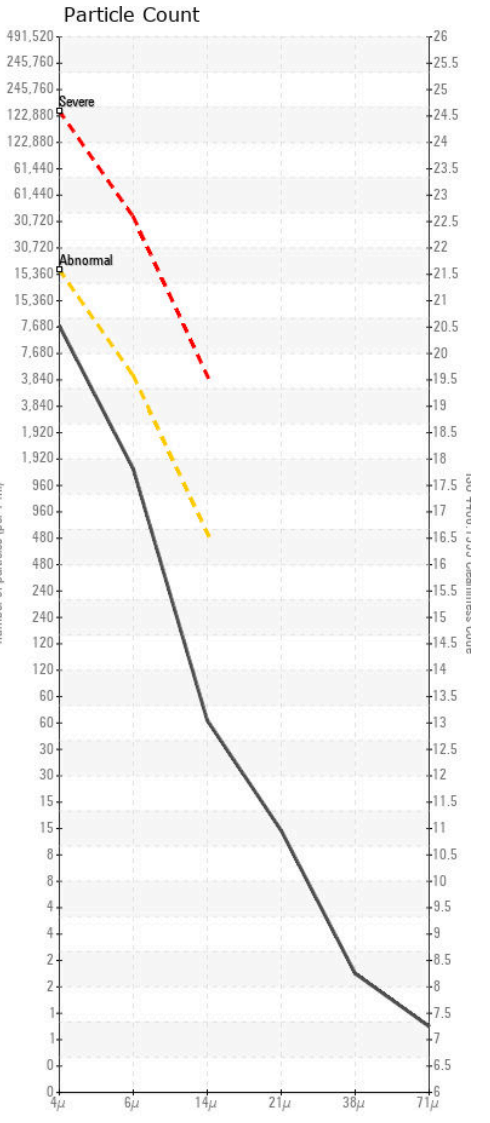
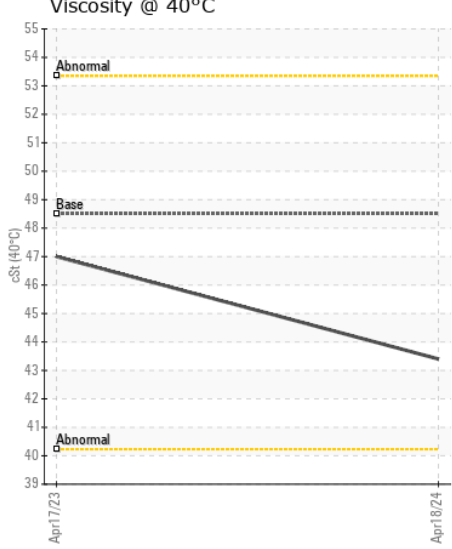
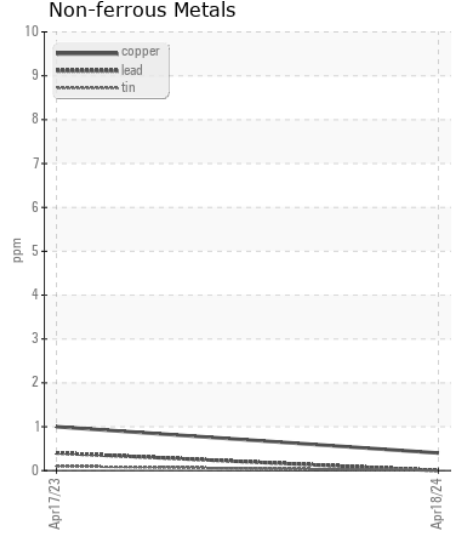
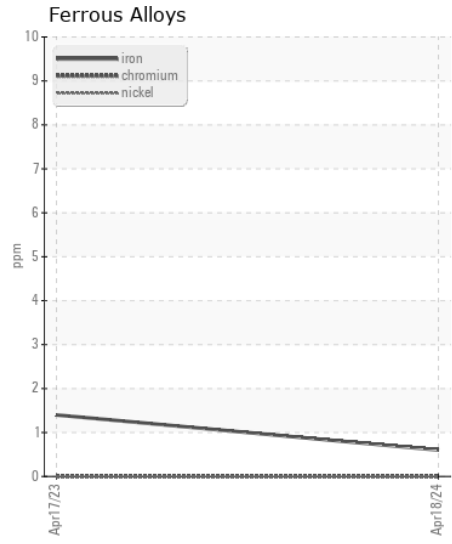
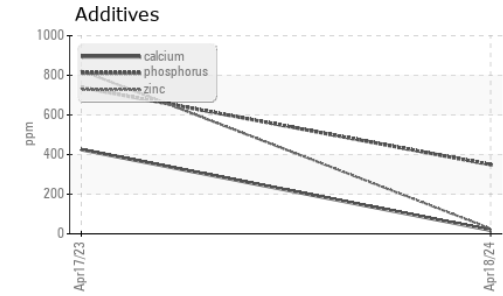
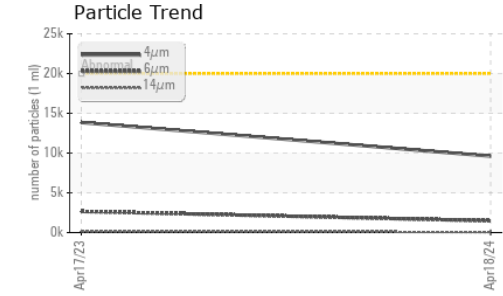
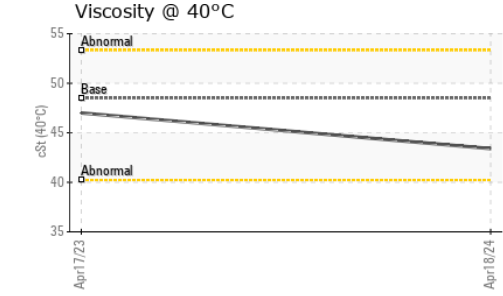
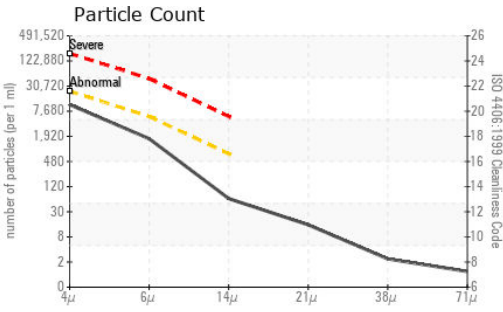
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185(m)	>20	0	2	---
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	---
Water		WC Method	>0.1	NEG	NEG	---
Particles >4µm		ASTM D7647	>20000	9611	13845	---
Particles >6µm		ASTM D7647	>5000	1476	2657	---
Particles >14µm		ASTM D7647	>640	55	137	---
Particles >21µm		ASTM D7647	>160	13	26	---
Particles >38µm		ASTM D7647	>40	2	0	---
Particles >71µm		ASTM D7647	>10	1	0	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	20/18/13	21/19/14	---
Silt	scalar	Visual*	NONE	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	---

FLUID CONDITION

Additive levels indicate the addition of a different brand, or type of oil.
The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<1	0	---
Boron	ppm	ASTM D5185(m)	0	<1	<1	---
Barium	ppm	ASTM D5185(m)	0	0	0	---
Molybdenum	ppm	ASTM D5185(m)	0	0	0	---
Manganese	ppm	ASTM D5185(m)	0	0	0	---
Magnesium	ppm	ASTM D5185(m)	0	<1	1	---
Calcium	ppm	ASTM D5185(m)	0	18	425	---
Phosphorus	ppm	ASTM D5185(m)	0	349	739	---
Zinc	ppm	ASTM D5185(m)	0	26	824	---
Sulfur	ppm	ASTM D5185(m)	1100	792	1884	---
Visc @ 40°C	cSt	ASTM D7279(m)	48.5	43.4	47.0	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH **Received** : 10 May 2024
Lab Number : 02634645 **Tested** : 13 May 2024
Unique Number : 5775798 **Diagnosed** : 13 May 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: PrtCount)

LES ENTREPRISES LOU-VIL INC
 255 BOUL. LOUIS XIV
 QUEBEC, QC
 CA G2K 1W6
 Contact: Service Manager

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

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 F: