



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
[AFTER FILTER CHANGE]
 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		LH0285917	LH	LH0260955
Sample Date		Client Info		07 Jun 2024	18 Apr 2024	17 Apr 2023
Machine Age	hrs	Client Info		2433	2343	1310
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Chngd	Changed	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

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

CONTAMINATION

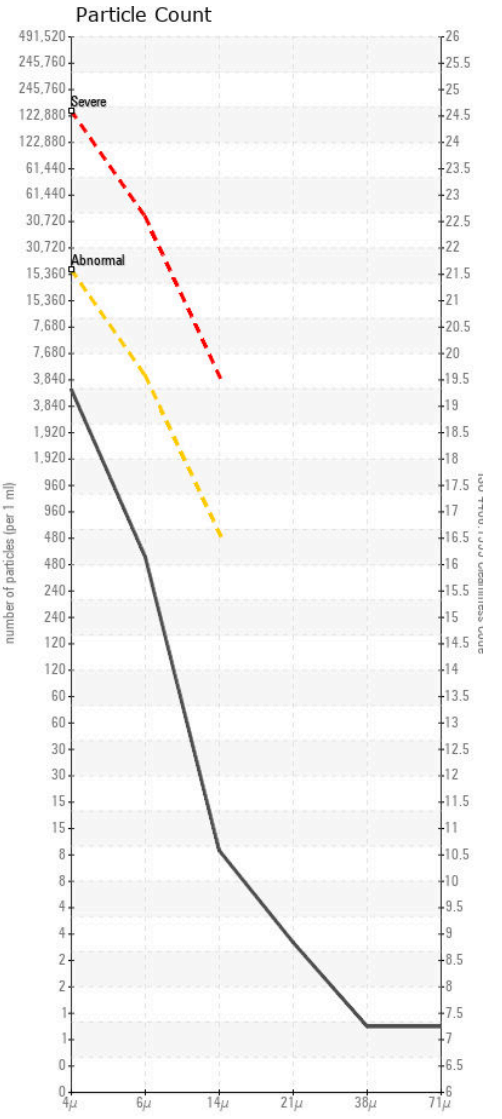
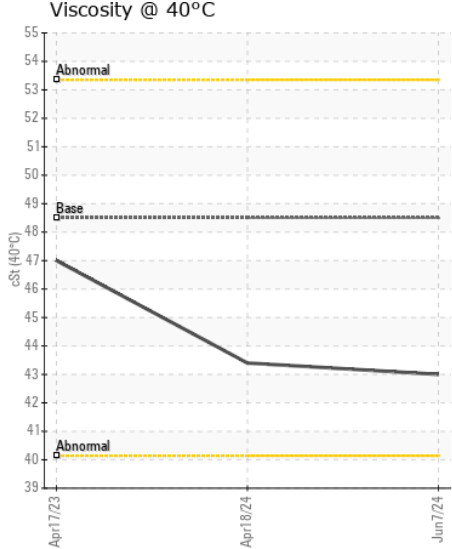
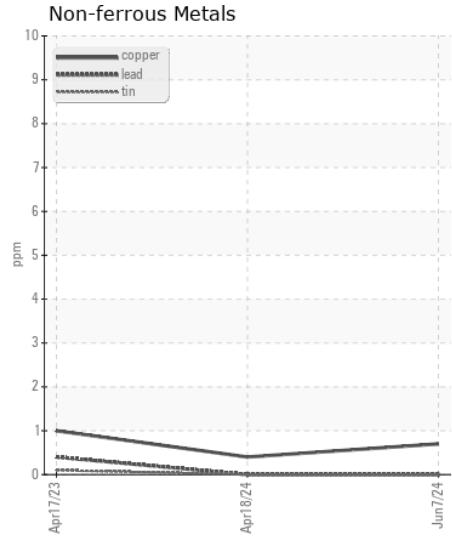
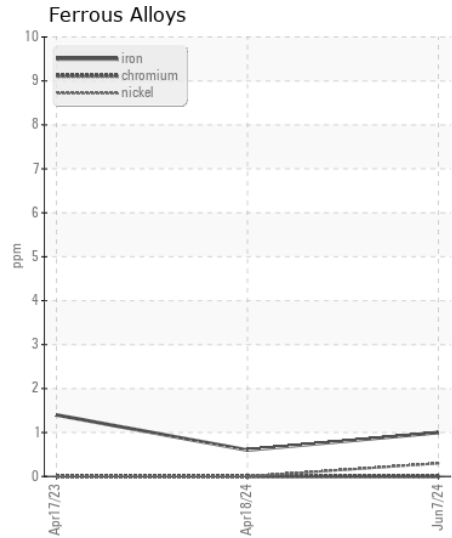
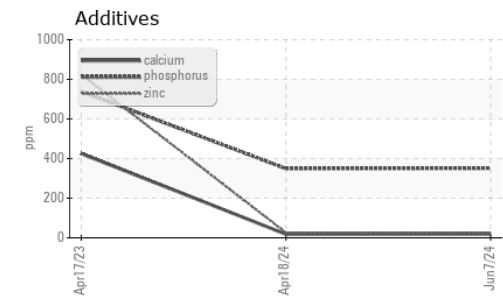
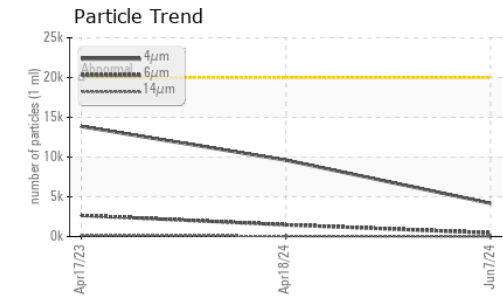
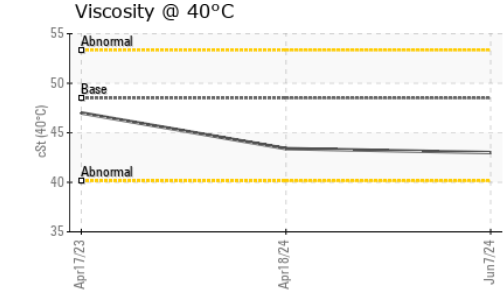
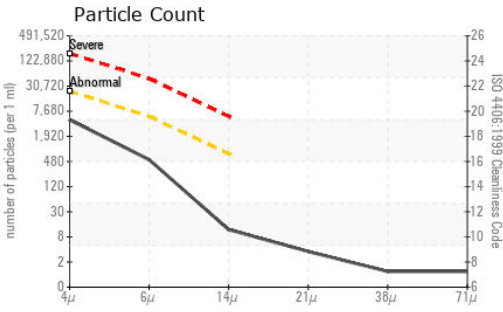
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185(m)	>20	1	0	2
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	4174	9611	13845
Particles >6µm		ASTM D7647	>5000	466	1476	2657
Particles >14µm		ASTM D7647	>640	10	55	137
Particles >21µm		ASTM D7647	>160	3	13	26
Particles >38µm		ASTM D7647	>40	1	2	0
Particles >71µm		ASTM D7647	>10	1	1	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	19/16/10	20/18/13	21/19/14
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	NEG	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	<1	0
Boron	ppm	ASTM D5185(m)	0	2	<1	<1
Barium	ppm	ASTM D5185(m)	0	<1	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0	0
Magnesium	ppm	ASTM D5185(m)	0	<1	<1	1
Calcium	ppm	ASTM D5185(m)	0	19	18	425
Phosphorus	ppm	ASTM D5185(m)	0	351	349	739
Zinc	ppm	ASTM D5185(m)	0	25	26	824
Sulfur	ppm	ASTM D5185(m)	1100	809	792	1884
Visc @ 40°C	cSt	ASTM D7279(m)	48.5	43.0	43.4	47.0



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0285917 **Received** : 20 Jun 2024
Lab Number : 02643201 **Tested** : 21 Jun 2024
Unique Number : 5800740 **Diagnosed** : 21 Jun 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: