



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR R920 052179-1705

Component
Hydraulic System

Fluid
LIEBHERR HYDRAULIC HVI (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0280982	LH0201939	LH0126746
Sample Date		Client Info		16 May 2024	22 Sep 2022	24 Jan 2022
Machine Age	hrs	Client Info		2489	950	447
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Filter Changed		Client Info		N/A	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>50	7	6	6
Chromium	ppm	ASTM D5185(m)	>15	0	0	<1
Nickel	ppm	ASTM D5185(m)	>5	0	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	<1
Aluminum	ppm	ASTM D5185(m)	>8	<1	<1	<1
Lead	ppm	ASTM D5185(m)	>5	0	<1	<1
Copper	ppm	ASTM D5185(m)	>15	6	5	4
Tin	ppm	ASTM D5185(m)	>5	0	0	0
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

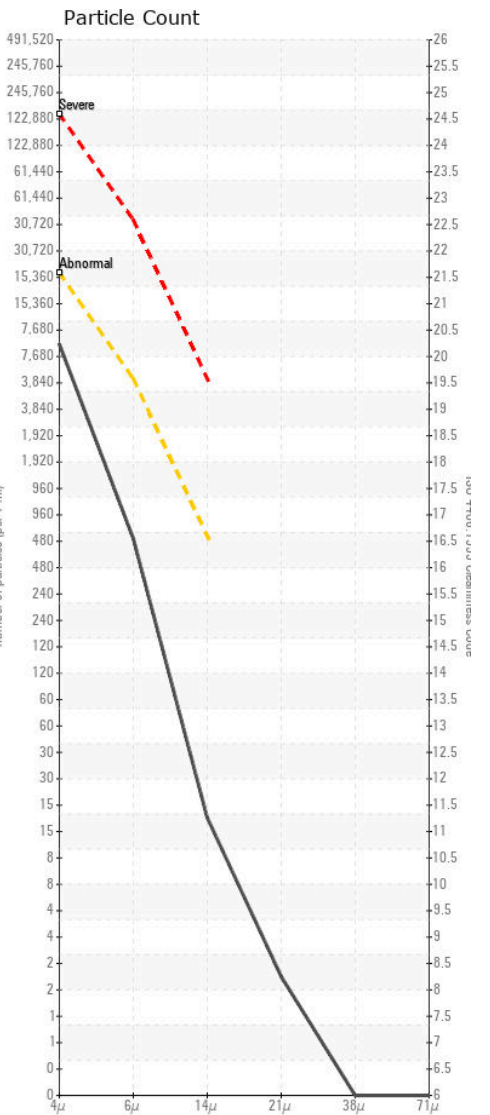
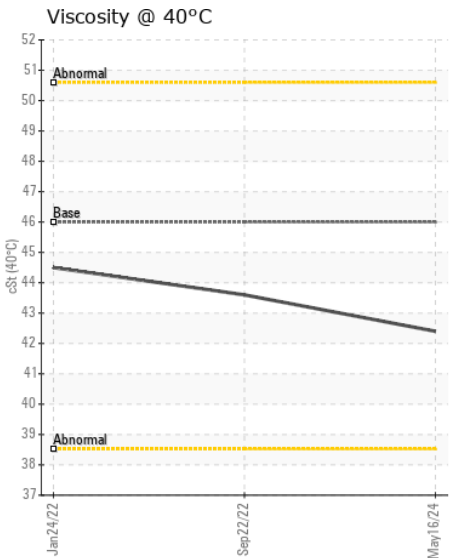
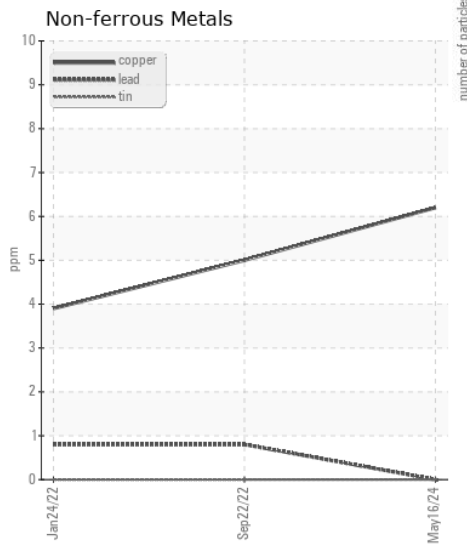
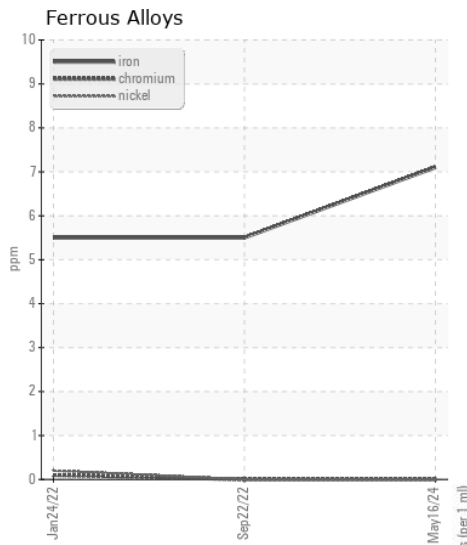
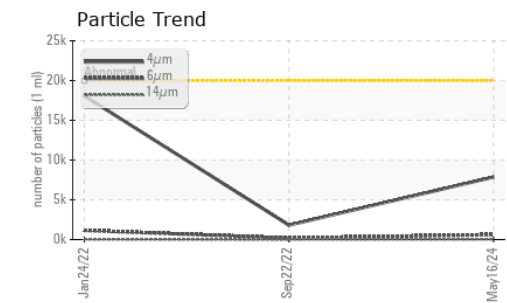
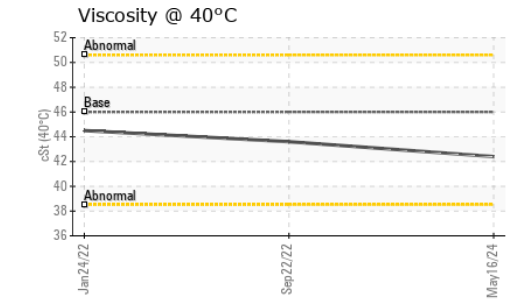
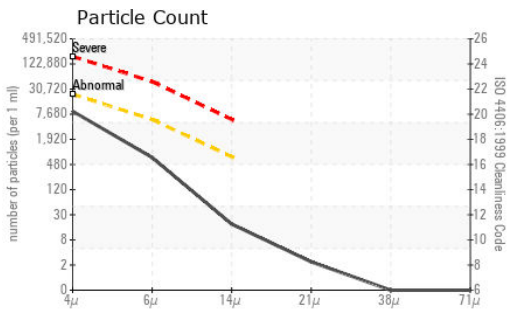
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185(m)	>25	6	7	7
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	7875	1813	18076
Particles >6µm		ASTM D7647	>5000	618	183	1153
Particles >14µm		ASTM D7647	>640	16	7	28
Particles >21µm		ASTM D7647	>160	2	2	4
Particles >38µm		ASTM D7647	>40	0	0	0
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	20/16/11	18/15/10	21/17/12
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	VLITE
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

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

Sodium	ppm	ASTM D5185(m)		2	2	1
Boron	ppm	ASTM D5185(m)	0	<1	<1	<1
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0	0
Manganese	ppm	ASTM D5185(m)	<1	0	<1	<1
Magnesium	ppm	ASTM D5185(m)	7	4	4	6
Calcium	ppm	ASTM D5185(m)	1317	1263	1428	1360
Phosphorus	ppm	ASTM D5185(m)	611	562	654	644
Zinc	ppm	ASTM D5185(m)	696	697	680	699
Sulfur	ppm	ASTM D5185(m)	2574	3951	4341	4283
Visc @ 40°C	cSt	ASTM D7279(m)	46	42.4	43.6	44.5



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0280982 **Received** : 23 May 2024
Lab Number : 02637209 **Tested** : 27 May 2024
Unique Number : 5786371 **Diagnosed** : 27 May 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: PrtCount)

Phoenix Treatment Systems Ltd.
 2615-26 Ave SW
 Calgary, AB
 CA T3E 8C7
 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: