



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH60M 114835-1217
Component
Hydraulic System
Fluid
LIEBHERR HYDRAULIC HVI (74 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0243904	LH0207433	LH0185447
Sample Date		Client Info		24 Jun 2024	06 Dec 2021	19 Jan 2021
Machine Age	hrs	Client Info		9311	3985	2206
Oil Age	hrs	Client Info		9311	0	2206
Filter Age	hrs	Client Info		9311	874	0
Oil Changed		Client Info		Not Chngd	Not Chngd	Changed
Filter Changed		Client Info		Not Chngd	Changed	Not Chngd
Sample Status				NORMAL	NORMAL	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>60	10	29	20
Chromium	ppm	ASTM D5185m	>40	3	2	1
Nickel	ppm	ASTM D5185m	>10	<1	0	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>5	<1	<1	<1
Lead	ppm	ASTM D5185m	>5	<1	<1	<1
Copper	ppm	ASTM D5185m	>15	3	4	3
Tin	ppm	ASTM D5185m	>5	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

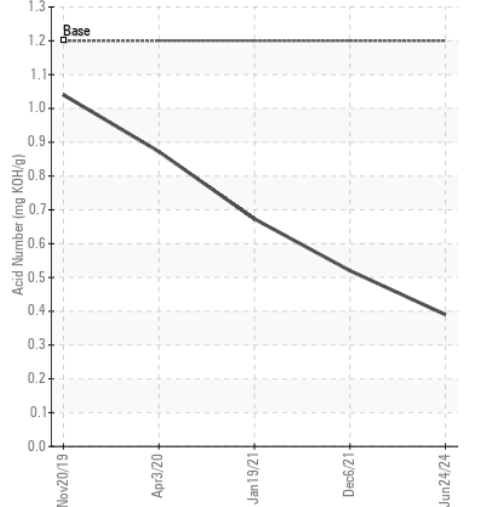
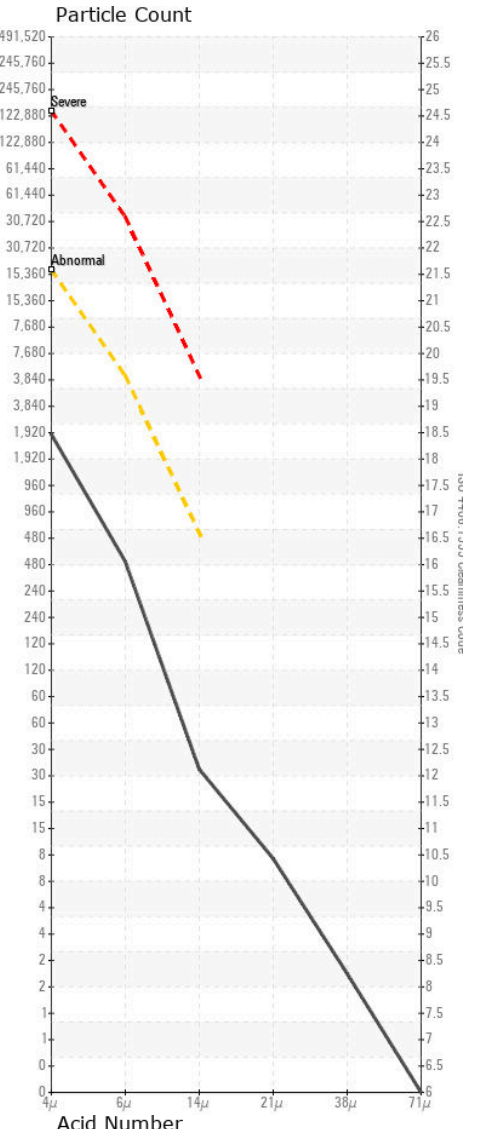
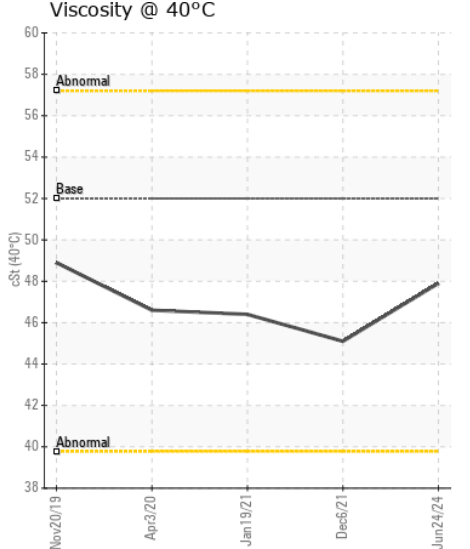
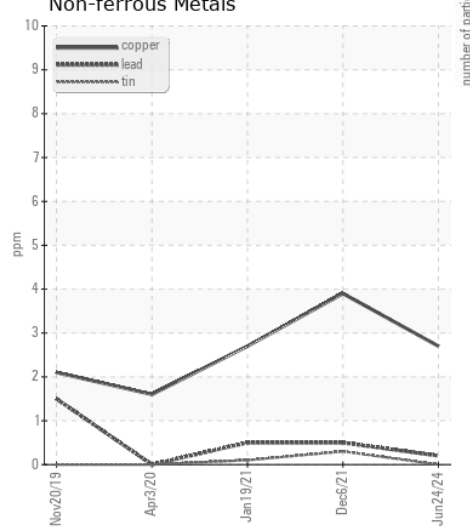
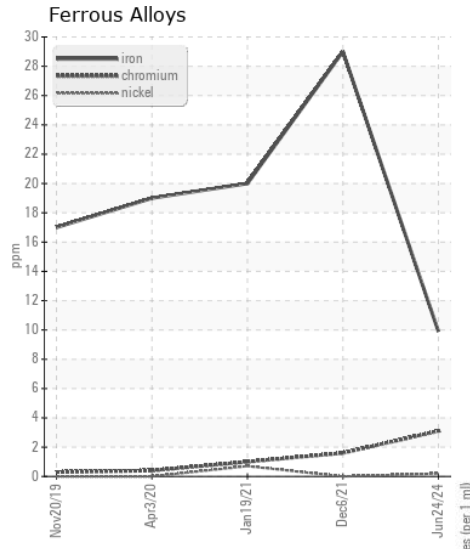
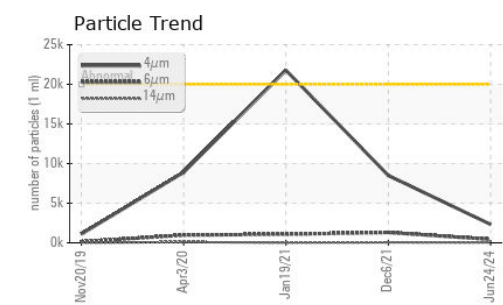
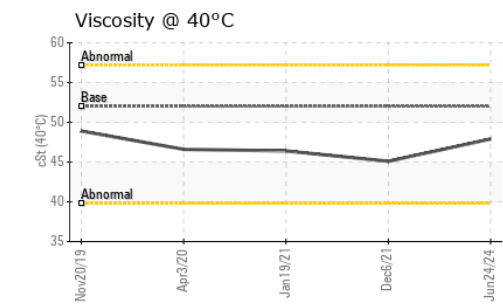
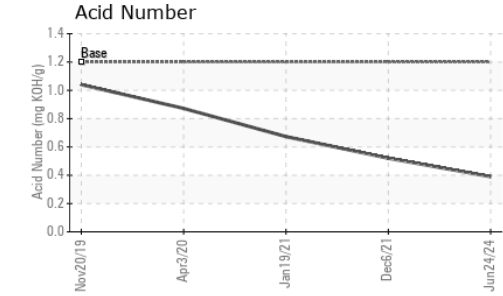
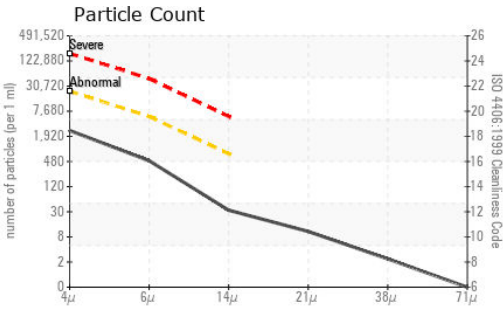
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>15	<1	1	<1
Potassium	ppm	ASTM D5185m	>20	2	0	<1
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	2321	8500	21774
Particles >6µm		ASTM D7647	>5000	439	1310	1078
Particles >14µm		ASTM D7647	>640	29	44	11
Particles >21µm		ASTM D7647	>160	9	9	4
Particles >38µm		ASTM D7647	>40	2	0	0
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	18/16/12	20/18/13	22/17/11
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

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

Sodium	ppm	ASTM D5185m		1	<1	6
Boron	ppm	ASTM D5185m		5	<1	<1
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		<1	<1	<1
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m	7	7	3	5
Calcium	ppm	ASTM D5185m	1500	71	89	163
Phosphorus	ppm	ASTM D5185m	750	386	362	411
Zinc	ppm	ASTM D5185m	820	481	491	491
Sulfur	ppm	ASTM D5185m	4000	1100	1139	1461
Acid Number (AN)	mg KOH/g	ASTM D8045	1.2	0.39	0.52	0.673
Visc @ 40°C	cSt	ASTM D445	52	47.9	45.1	46.4



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0243904
Lab Number : 06229095
Unique Number : 11112588
Test Package : CONST
Received : 05 Jul 2024
Tested : 09 Jul 2024
Diagnosed : 09 Jul 2024 - Jonathan Hester

SIMS METAL MANAGEMENT
 3220 DEEPWATER TERMINAL RD
 RICHMOND, VA
 US 23234
 Contact: Service Manager

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)