



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH50M 1203-88008

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		LH0207357	LHMC144349	---
Sample Date		Client Info		11 Nov 2021	20 Feb 2021	---
Machine Age	hrs	Client Info		5159	3069	---
Oil Age	hrs	Client Info		5159	3069	---
Filter Age	hrs	Client Info		5159	1069	---
Oil Changed		Client Info		Filtered	N/A	---
Filter Changed		Client Info		Changed	N/A	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	10	10	---
Chromium	ppm	ASTM D5185m	>5	<1	1	---
Nickel	ppm	ASTM D5185m	>2	0	0	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m		<1	0	---
Aluminum	ppm	ASTM D5185m	>2	<1	0	---
Lead	ppm	ASTM D5185m	>4	1	<1	---
Copper	ppm	ASTM D5185m	>10	3	3	---
Tin	ppm	ASTM D5185m	>2	<1	<1	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	VLITE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

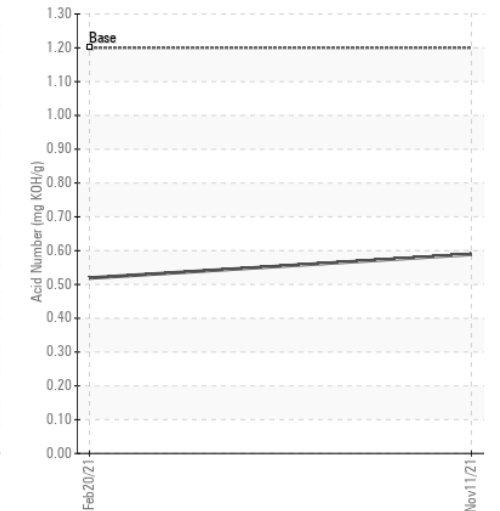
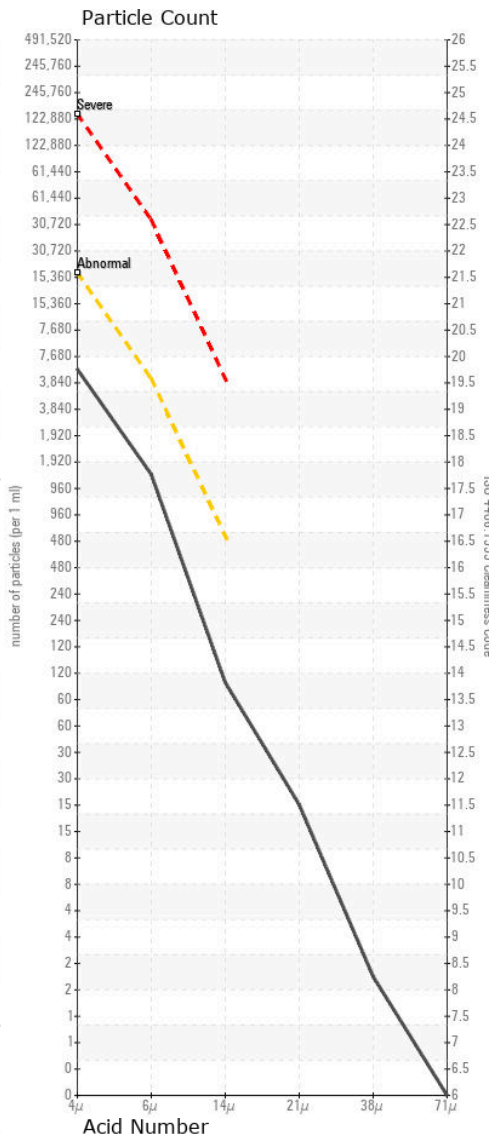
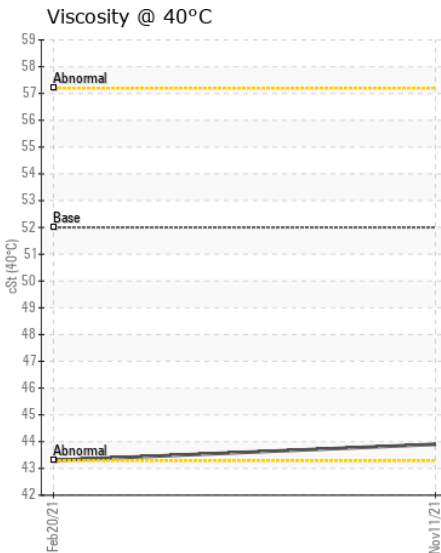
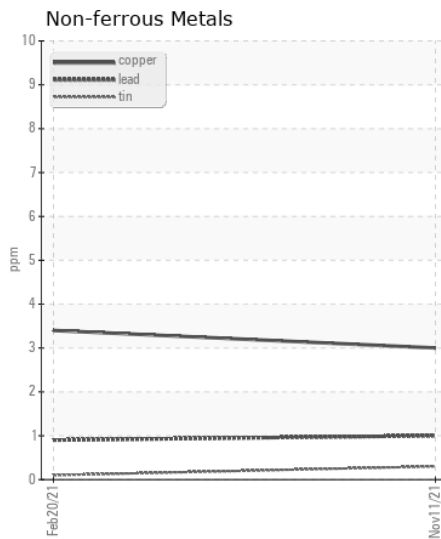
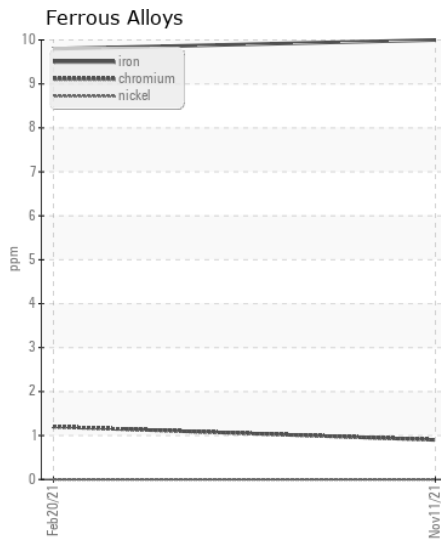
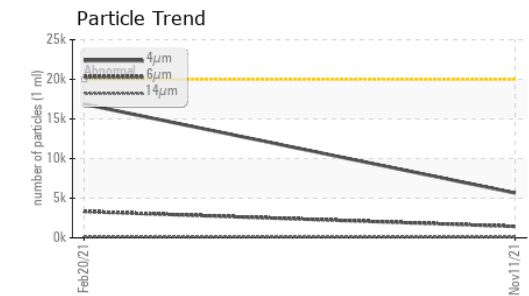
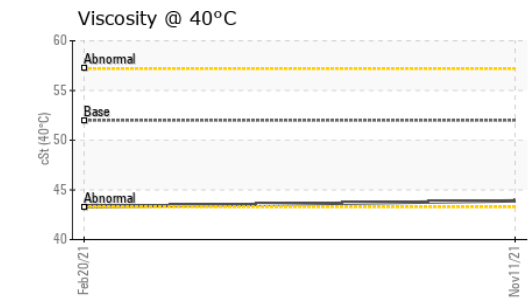
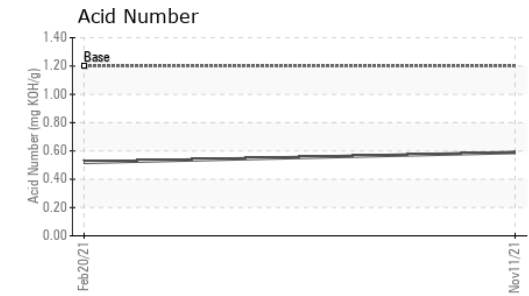
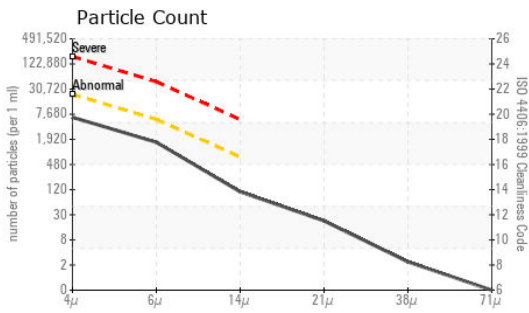
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>17	2	3	---
Potassium	ppm	ASTM D5185m	>20	0	<1	---
Water		WC Method	>0.1	NEG	NEG	---
Particles >4µm		ASTM D7647	>20000	5657	16867	---
Particles >6µm		ASTM D7647	>5000	1431	3317	---
Particles >14µm		ASTM D7647	>640	94	144	---
Particles >21µm		ASTM D7647	>160	19	28	---
Particles >38µm		ASTM D7647	>40	2	1	---
Particles >71µm		ASTM D7647	>10	0	0	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	20/18/14	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

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

Sodium	ppm	ASTM D5185m		2	0	---
Boron	ppm	ASTM D5185m		22	19	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		9	8	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m	7	60	53	---
Calcium	ppm	ASTM D5185m	1500	2486	1953	---
Phosphorus	ppm	ASTM D5185m	750	672	573	---
Zinc	ppm	ASTM D5185m	820	849	702	---
Sulfur	ppm	ASTM D5185m	4000	3623	3778	---
Acid Number (AN)	mg KOH/g	ASTM D8045	1.2	0.589	0.519	---
Visc @ 40°C	cSt	ASTM D445	52	43.9	43.3	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0207357 **Received** : 19 Nov 2021
Lab Number : 05405206 **Diagnosed** : 23 Nov 2021
Unique Number : 9749369 **Diagnostician** : Don Baldrige
Test Package : MOBCE

JR VINAGRO
 2208 PLAINFIELD PIKE
 JOHNSTON, RI
 US 02919
 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)

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F: