



# LIEBHERR

## OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Machine Id  
**LIEBHERR LH50M 1203-88008**  
Component  
**Diesel Engine**  
Fluid  
**LIEBHERR MOTOROIL 10W-40 (32 LTR)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LHMC154528</b>	LHMC142562	LHMC134101
Sample Date		Client Info		<b>20 Feb 2021</b>	28 Jan 2020	08 May 2019
Machine Age	hrs	Client Info		<b>3069</b>	1957	1487
Oil Age	hrs	Client Info		<b>569</b>	500	487
Filter Age	hrs	Client Info		<b>569</b>	500	487
Oil Changed		Client Info		<b>N/A</b>	Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>28</b>	24	49
Chromium	ppm	ASTM D5185m	>5	<b>1</b>	<1	2
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>15	<b>5</b>	7	10
Lead	ppm	ASTM D5185m	>30	<b>2</b>	2	21
Copper	ppm	ASTM D5185m	>125	<b>5</b>	11	36
Tin	ppm	ASTM D5185m	>5	<b>0</b>	0	2
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

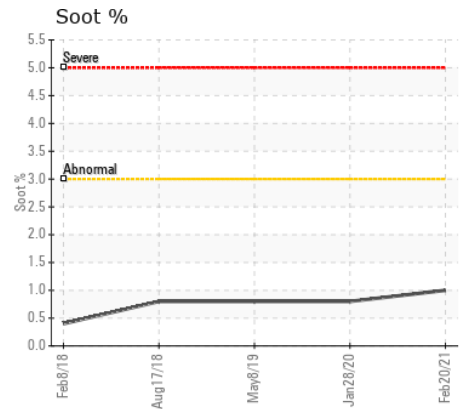
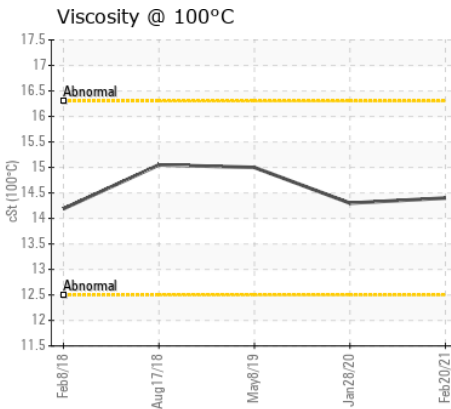
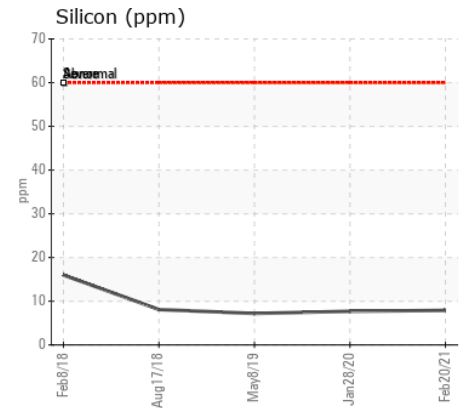
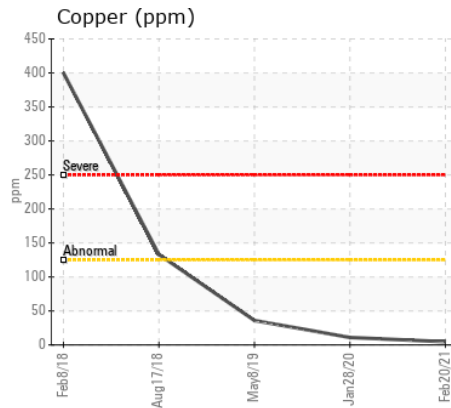
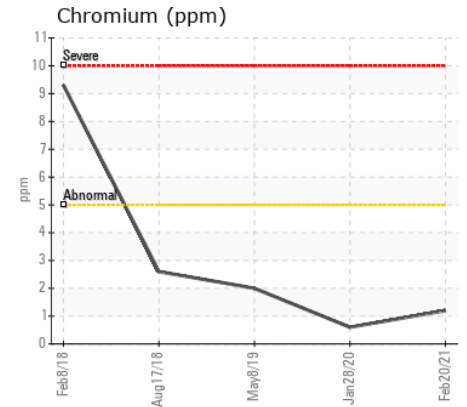
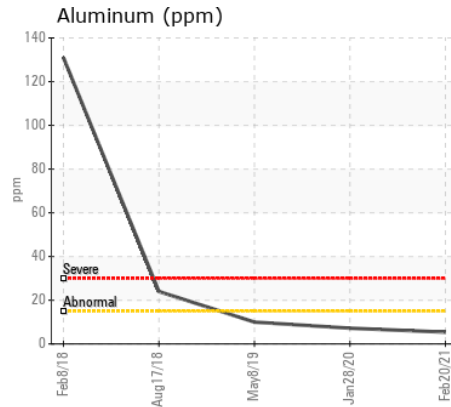
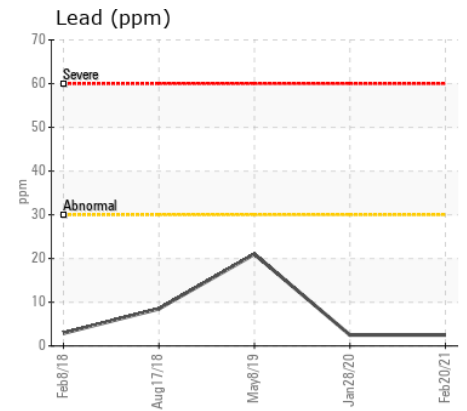
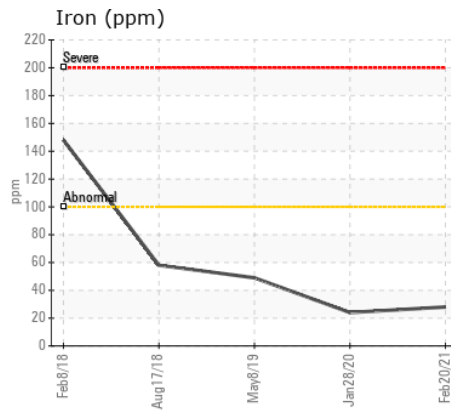
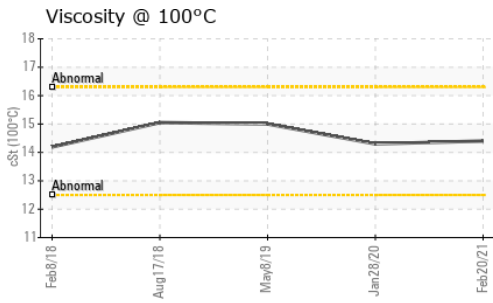
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	<b>8</b>	8	7
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	3	3
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>1</b>	0.8	0.8
Nitration	Abs/cm	*ASTM D7624	>20	<b>13.2</b>	12.8	14.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>24</b>	23.5	26
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		<b>16</b>	4	2
Boron	ppm	ASTM D5185m		<b>50</b>	45	2
Barium	ppm	ASTM D5185m		<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m		<b>2</b>	2	<1
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	1
Magnesium	ppm	ASTM D5185m		<b>828</b>	605	16
Calcium	ppm	ASTM D5185m		<b>1570</b>	1605	2959
Phosphorus	ppm	ASTM D5185m		<b>754</b>	694	729
Zinc	ppm	ASTM D5185m		<b>894</b>	779	799
Sulfur	ppm	ASTM D5185m		<b>2779</b>	2404	2883
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>24.1</b>	23	23.7
Visc @ 100°C	cSt	ASTM D445		<b>14.4</b>	14.3	15.0



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LHMC154528 **Received** : 12 Mar 2021  
**Lab Number** : 05202623 **Diagnosed** : 15 Mar 2021  
**Unique Number** : 9404032 **Diagnostician** : Don Baldridge  
**Test Package** : MOB 1

**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: