



# 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>LHMC134101</b>	LHMC130832	LHMC125434
Sample Date		Client Info		<b>08 May 2019</b>	17 Aug 2018	08 Feb 2018
Machine Age	hrs	Client Info		<b>1487</b>	980	536
Oil Age	hrs	Client Info		<b>487</b>	480	536
Filter Age	hrs	Client Info		<b>487</b>	480	536
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	ABNORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>49</b>	58	148
Chromium	ppm	ASTM D5185m	>5	<b>2</b>	3	9
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	1
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	1
Silver	ppm	ASTM D5185m		<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>15	<b>10</b>	24	▲ 131
Lead	ppm	ASTM D5185m	>30	<b>21</b>	8	3
Copper	ppm	ASTM D5185m	>125	<b>36</b>	133	▲ 400
Tin	ppm	ASTM D5185m	>5	<b>2</b>	2	3
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

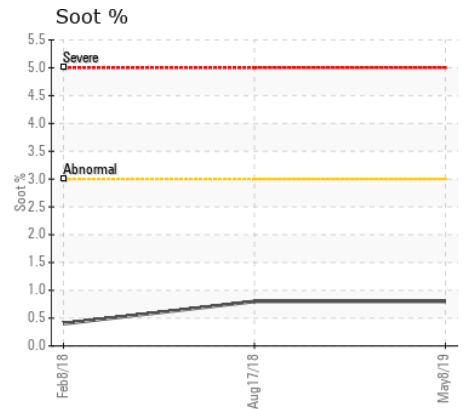
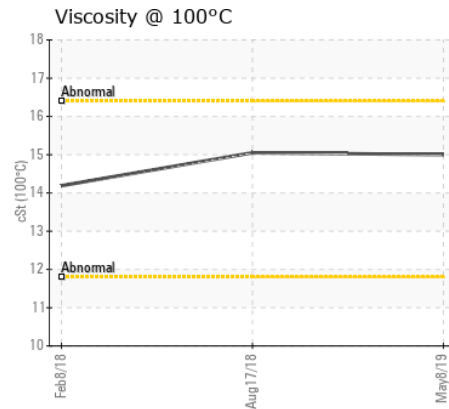
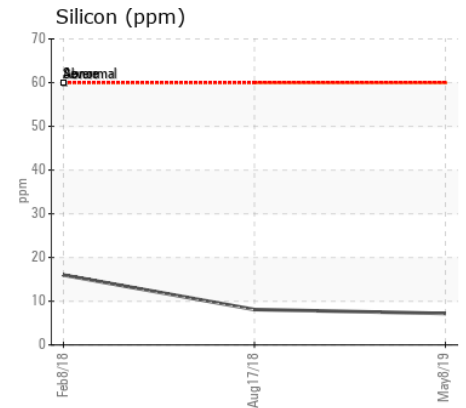
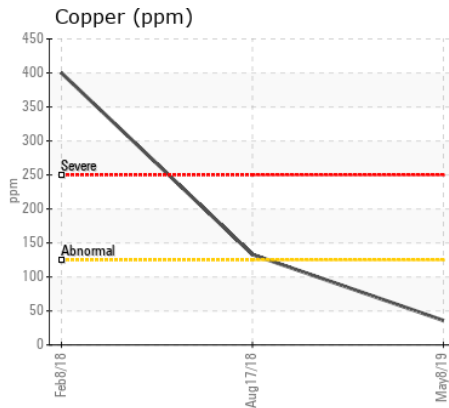
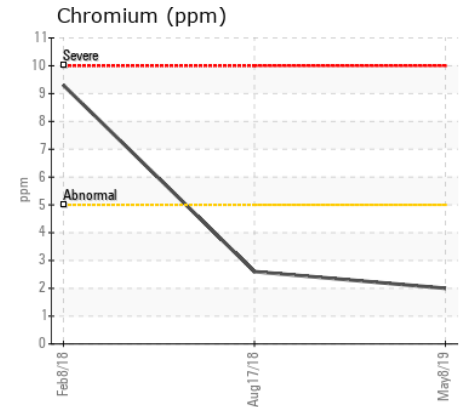
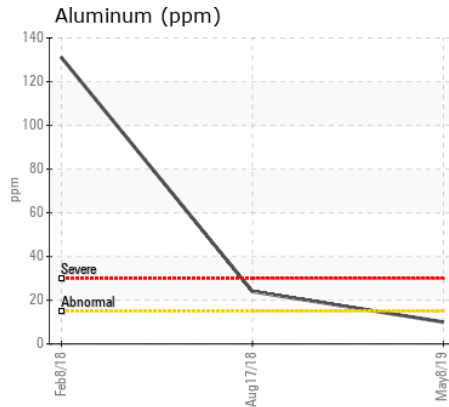
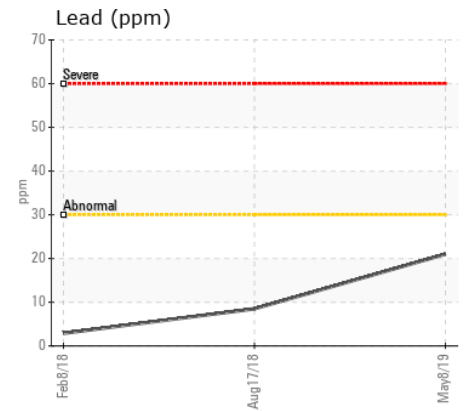
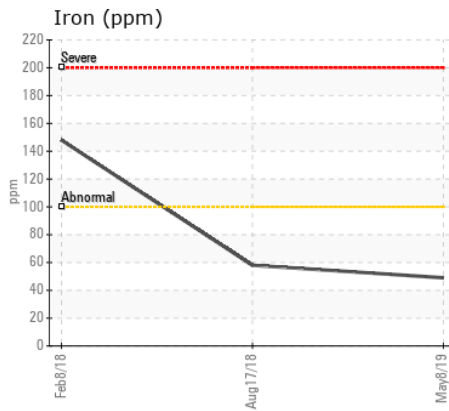
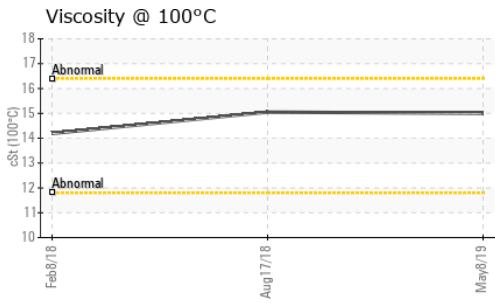
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	<b>7</b>	8	16
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	1	6
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>0.8</b>	0.8	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>14.4</b>	14.3	12.
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>26</b>	26.1	24.
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>2</b>	3	5
Boron	ppm	ASTM D5185m		<b>2</b>	4	34
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	3	26
Molybdenum	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Manganese	ppm	ASTM D5185m		<b>1</b>	1	4
Magnesium	ppm	ASTM D5185m		<b>16</b>	17	20
Calcium	ppm	ASTM D5185m		<b>2959</b>	2432	2421
Phosphorus	ppm	ASTM D5185m		<b>729</b>	656	709
Zinc	ppm	ASTM D5185m		<b>799</b>	744	805
Sulfur	ppm	ASTM D5185m		<b>2883</b>	1762	2006
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>23.7</b>	24.5	21.
Visc @ 100°C	cSt	ASTM D445		<b>15.0</b>	15.05	14.19



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LHMC134101 **Received** : 15 May 2019  
**Lab Number** : 04713901 **Diagnosed** : 16 May 2019  
**Unique Number** : 8600447 **Diagnostician** : Don Baldrige  
**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: