



# 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>LH0207358</b>	LH0184654	LHMC154528
Sample Date		Client Info		<b>11 Nov 2021</b>	30 Sep 2021	20 Feb 2021
Machine Age	hrs	Client Info		<b>5159</b>	4500	3069
Oil Age	hrs	Client Info		<b>500</b>	500	569
Filter Age	hrs	Client Info		<b>500</b>	500	569
Oil Changed		Client Info		<b>Changed</b>	Changed	N/A
Filter Changed		Client Info		<b>Changed</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	ABNORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>66	<b>35</b>	64	28
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	2	1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>8	<b>3</b>	5	5
Lead	ppm	ASTM D5185m	>10	<b>9</b>	▲ 34	2
Copper	ppm	ASTM D5185m	>74	<b>5</b>	6	5
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	0
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

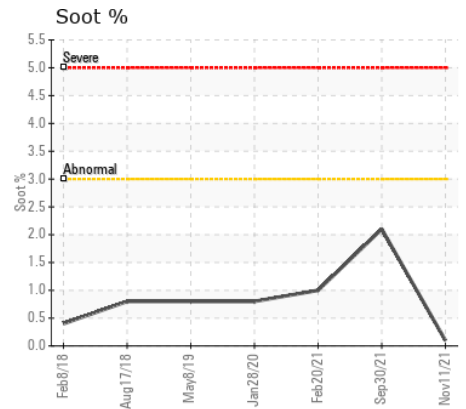
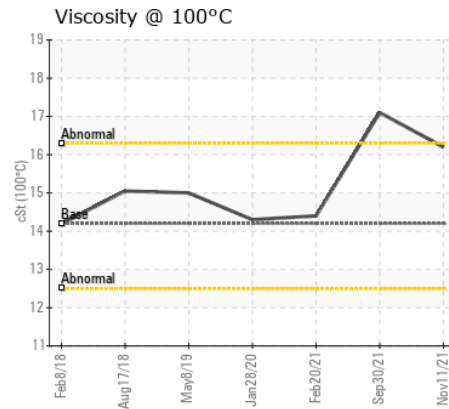
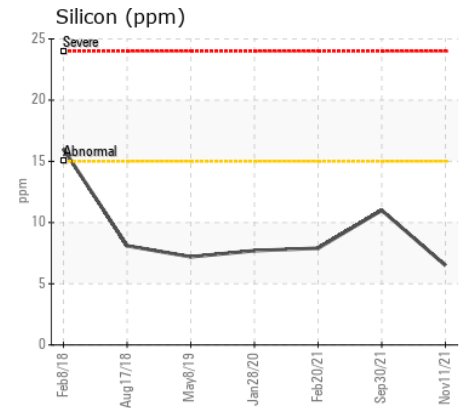
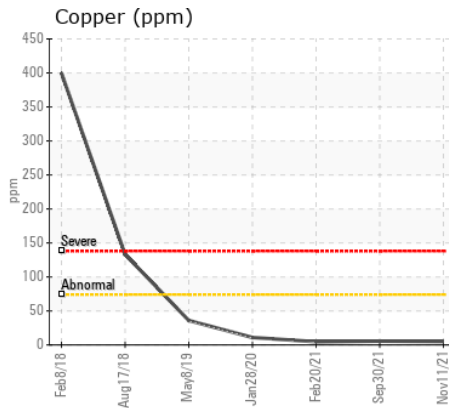
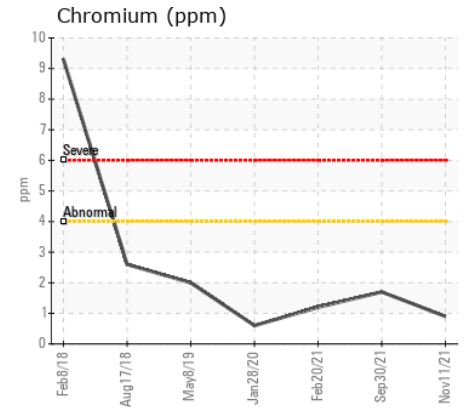
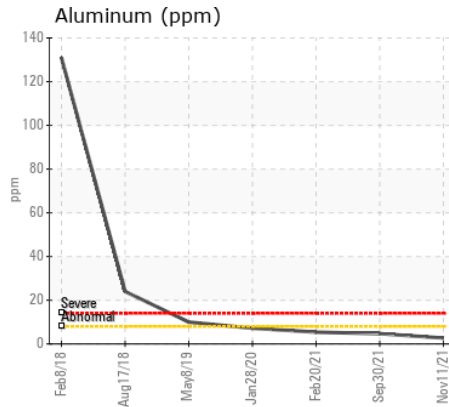
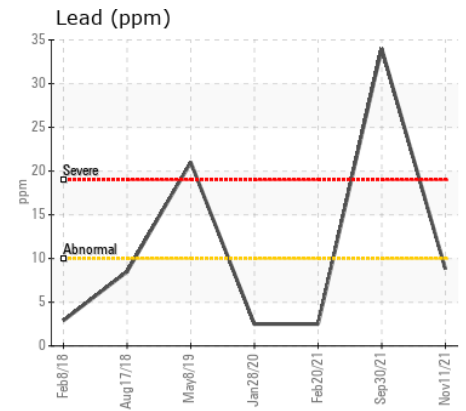
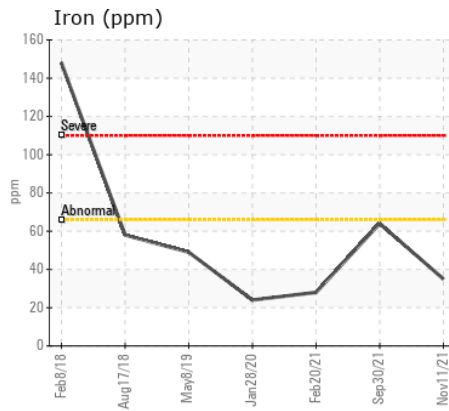
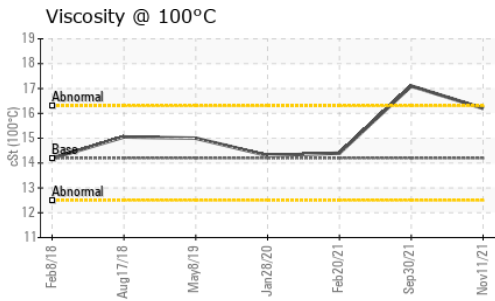
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>15	<b>6</b>	11	8
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	9	2
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>0.1</b>	2.1	1
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.7</b>	18	13.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.1</b>	28.4	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>1</b>	4	16
Boron	ppm	ASTM D5185m	245	<b>43</b>	33	50
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	0	<b>55</b>	50	2
Manganese	ppm	ASTM D5185m	<1	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	36	<b>983</b>	1107	828
Calcium	ppm	ASTM D5185m	4401	<b>1534</b>	1690	1570
Phosphorus	ppm	ASTM D5185m	1067	<b>713</b>	794	754
Zinc	ppm	ASTM D5185m	1183	<b>949</b>	958	894
Sulfur	ppm	ASTM D5185m	2591	<b>2293</b>	3965	2779
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>12.9</b>	29.1	24.1
Visc @ 100°C	cSt	ASTM D445	14.2	<b>16.2</b>	▲ 17.1	14.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LH0207358 **Received** : 19 Nov 2021  
**Lab Number** : 05405269 **Diagnosed** : 23 Nov 2021  
**Unique Number** : 9749432 **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: