



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



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		LHMC142562	LHMC134101	LHMC130832
Sample Date		Client Info		28 Jan 2020	08 May 2019	17 Aug 2018
Machine Age	hrs	Client Info		1957	1487	980
Oil Age	hrs	Client Info		500	487	480
Filter Age	hrs	Client Info		500	487	480
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	24	49	58
Chromium	ppm	ASTM D5185m	>5	<1	2	3
Nickel	ppm	ASTM D5185m	>5	<1	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m		<1	0	0
Aluminum	ppm	ASTM D5185m	>15	7	10	24
Lead	ppm	ASTM D5185m	>30	2	21	8
Copper	ppm	ASTM D5185m	>125	11	36	133
Tin	ppm	ASTM D5185m	>5	0	2	2
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

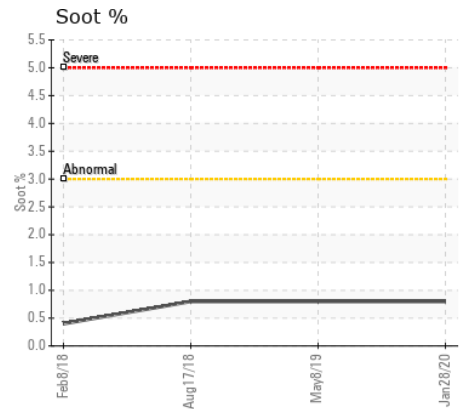
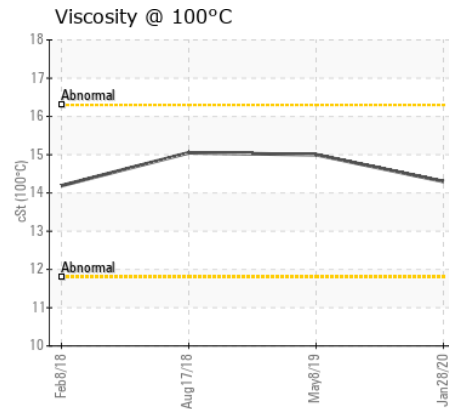
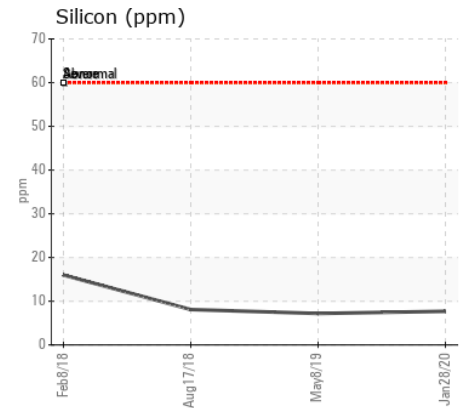
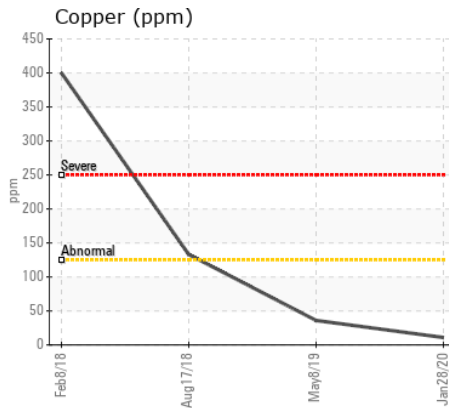
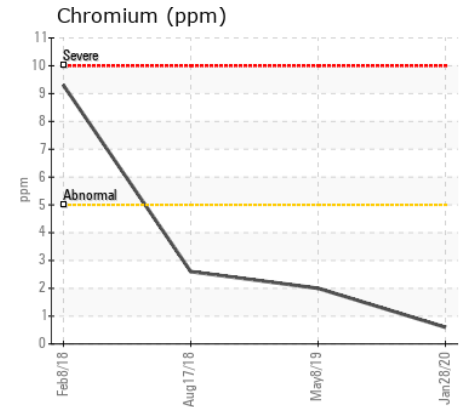
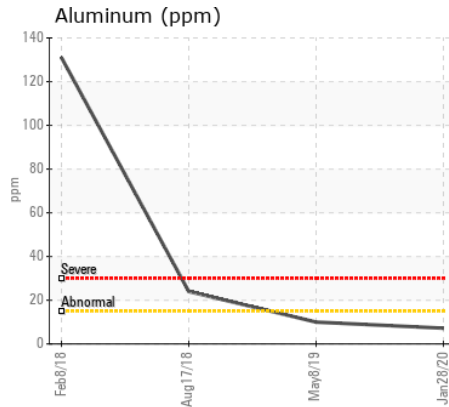
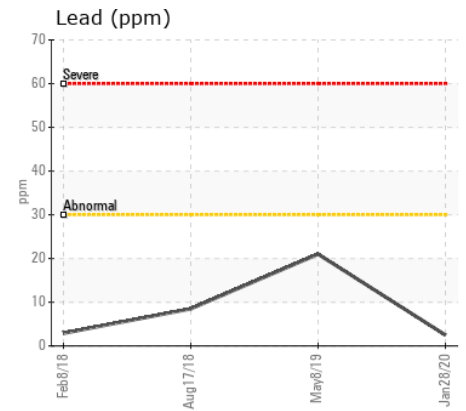
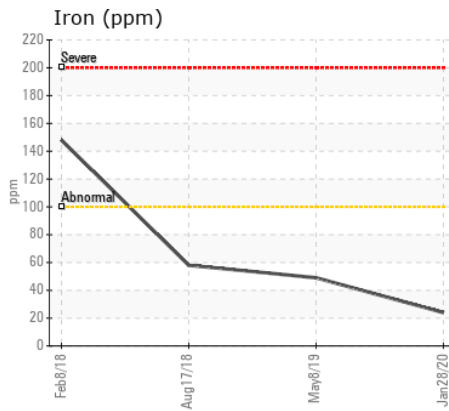
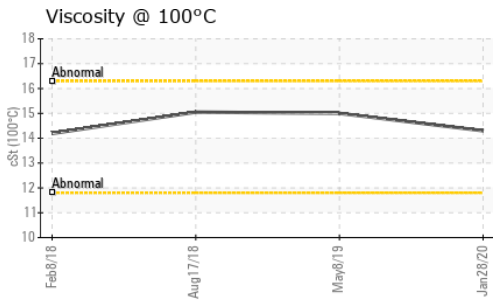
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	8	7	8
Potassium	ppm	ASTM D5185m	>20	3	3	1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.8	0.8	0.8
Nitration	Abs/cm	*ASTM D7624	>20	12.8	14.4	14.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.5	26	26.1
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	>0.2	NEG	NEG	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		4	2	3
Boron	ppm	ASTM D5185m		45	2	4
Barium	ppm	ASTM D5185m		0	<1	3
Molybdenum	ppm	ASTM D5185m		2	<1	<1
Manganese	ppm	ASTM D5185m		<1	1	1
Magnesium	ppm	ASTM D5185m		605	16	17
Calcium	ppm	ASTM D5185m		1605	2959	2432
Phosphorus	ppm	ASTM D5185m		694	729	656
Zinc	ppm	ASTM D5185m		779	799	744
Sulfur	ppm	ASTM D5185m		2404	2883	1762
Oxidation	Abs/.1mm	*ASTM D7414	>25	23	23.7	24.5
Visc @ 100°C	cSt	ASTM D445		14.3	15.0	15.05



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LHMC142562 **Received** : 12 Feb 2020
Lab Number : 04909983 **Diagnosed** : 13 Feb 2020
Unique Number : 8920061 **Diagnostician** : Jonathan Hester
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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