



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH50M 1203-88008
Component
Diesel Engine
Fluid
LIEBHERR 10W40 (32 LTR)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LHMC130832	LHMC125434	---
Sample Date		Client Info		17 Aug 2018	08 Feb 2018	---
Machine Age	hrs	Client Info		980	536	---
Oil Age	hrs	Client Info		480	536	---
Filter Age	hrs	Client Info		480	536	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	ABNORMAL	---

WEAR

A decrease in the copper level is noted. A decrease in the aluminum level is noted.

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

CONTAMINATION

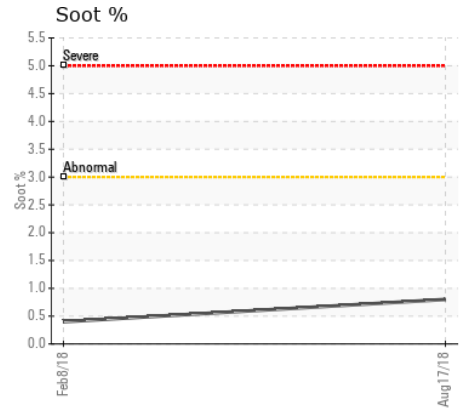
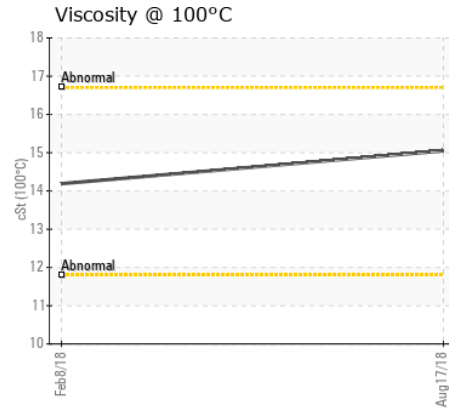
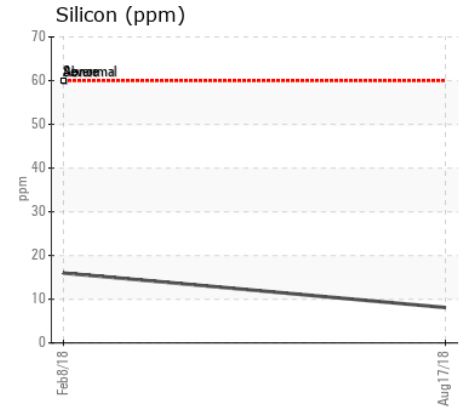
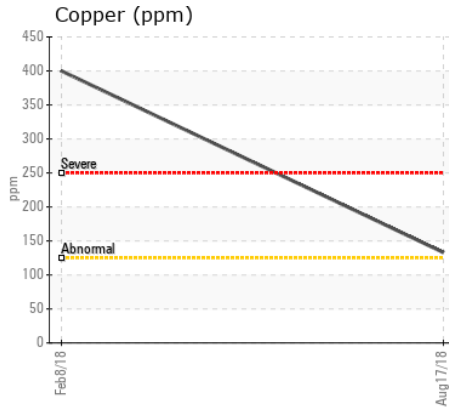
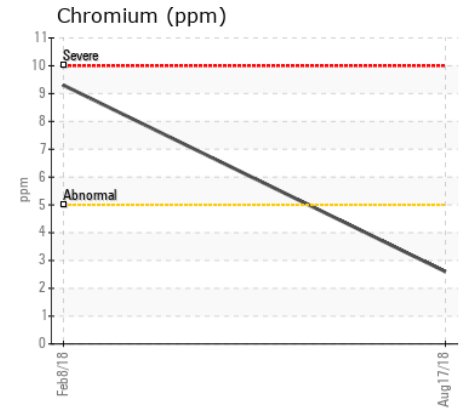
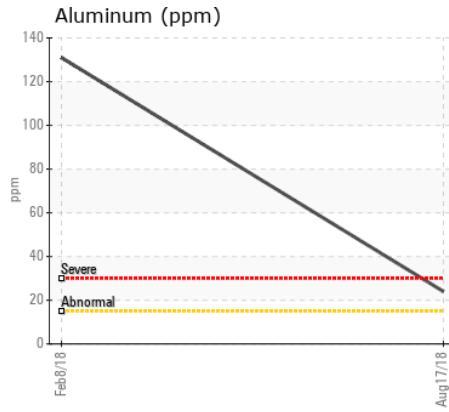
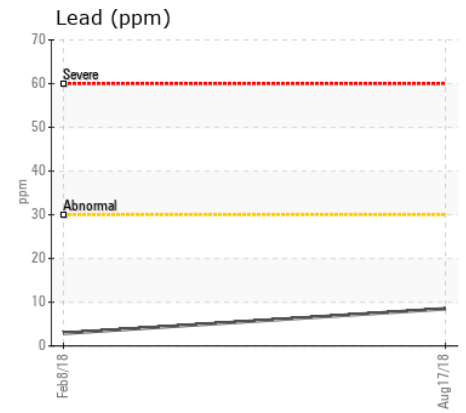
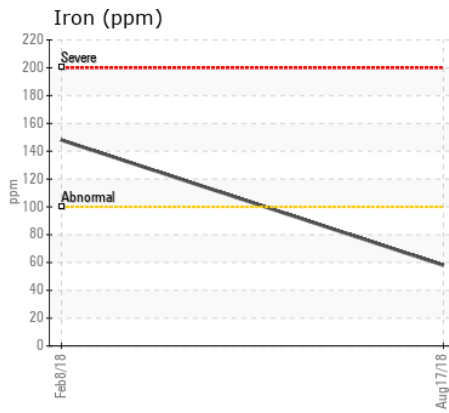
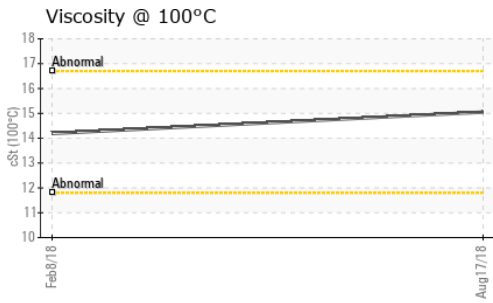
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	8	16	---
Potassium	ppm	ASTM D5185m	>20	1	6	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.8	0.4	---
Nitration	Abs/cm	*ASTM D7624	>25	14.3	12.	---
Sulfation	Abs/.1mm	*ASTM D7415	>35	26.1	24.	---
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	>0.2	NEG	NEG	---

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		3	5	---
Boron	ppm	ASTM D5185m		4	34	---
Barium	ppm	ASTM D5185m		3	26	---
Molybdenum	ppm	ASTM D5185m		<1	0	---
Manganese	ppm	ASTM D5185m		1	4	---
Magnesium	ppm	ASTM D5185m		17	20	---
Calcium	ppm	ASTM D5185m		2432	2421	---
Phosphorus	ppm	ASTM D5185m		656	709	---
Zinc	ppm	ASTM D5185m		744	805	---
Sulfur	ppm	ASTM D5185m		1762	2006	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	24.5	21.	---
Visc @ 100°C	cSt	ASTM D445		15.05	14.19	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LHMC130832 **Received** : 30 Aug 2018
Lab Number : 04542082 **Diagnosed** : 31 Aug 2018
Unique Number : 8315914 **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)

T:
F: