



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



Machine Id  
**LIEBHERR L586 L-7 (S/N 033013)**  
Component  
**Diesel Engine**  
Fluid  
**FLEETLINE SUPERFLEET XHD 15W40 (12 GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LP0001211</b>	LP0001232	LP0000632
Sample Date		Client Info		<b>11 Jun 2024</b>	16 Feb 2024	26 Sep 2023
Machine Age	hrs	Client Info		<b>14400</b>	14250	13742
Oil Age	hrs	Client Info		<b>481</b>	350	250
Filter Age	hrs	Client Info		<b>481</b>	350	250
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>4</b>	3	<1
Chromium	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>1</b>	2	2
Lead	ppm	ASTM D5185m	>30	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m	>125	<b>&lt;1</b>	0	<1
Tin	ppm	ASTM D5185m	>5	<b>0</b>	0	0
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

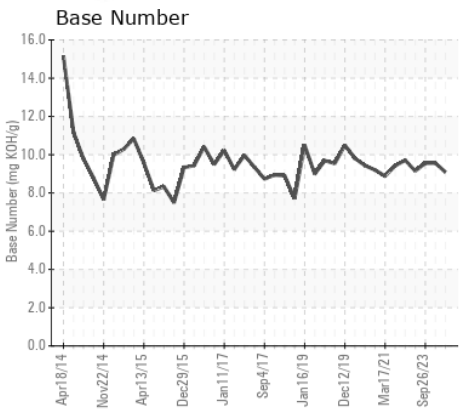
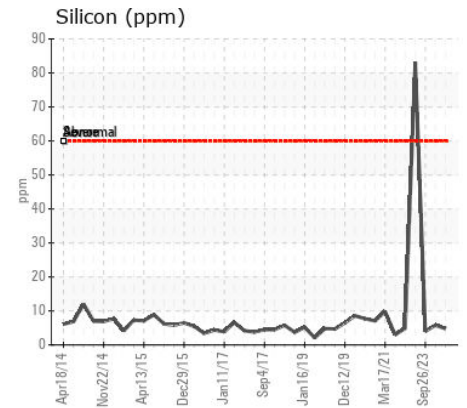
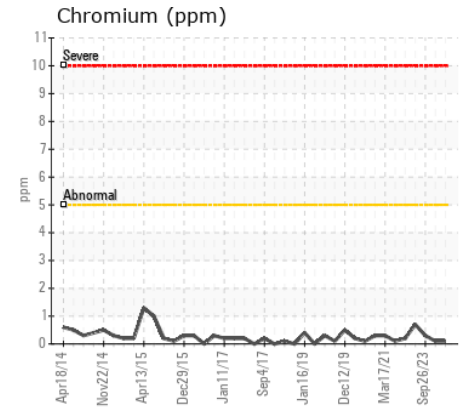
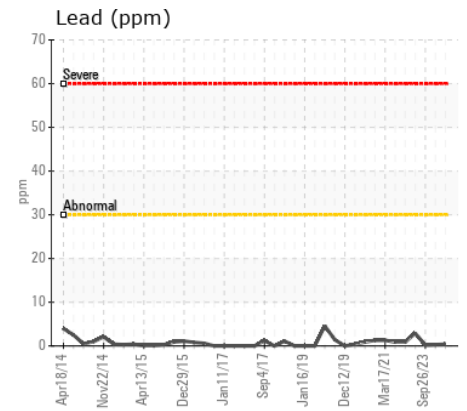
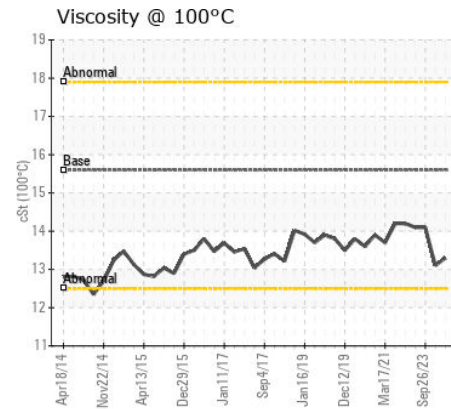
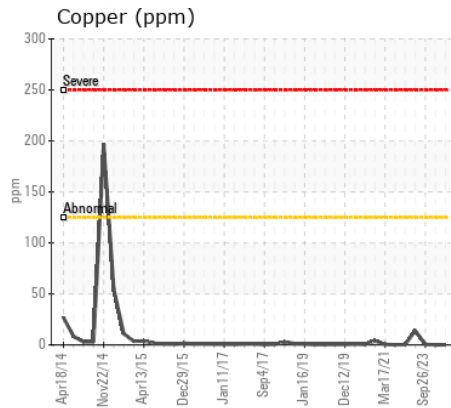
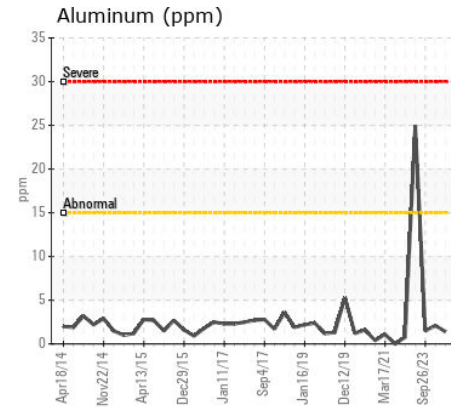
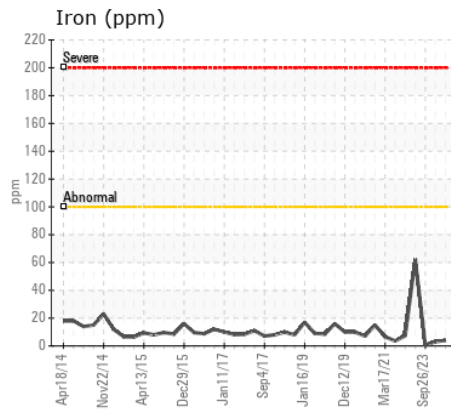
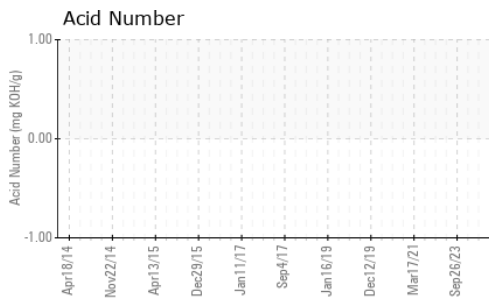
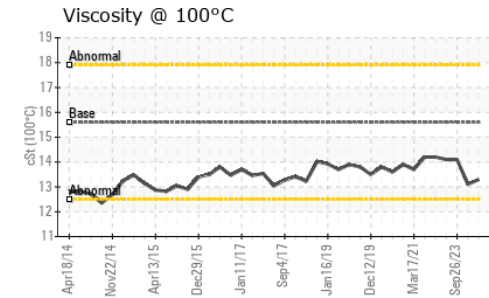
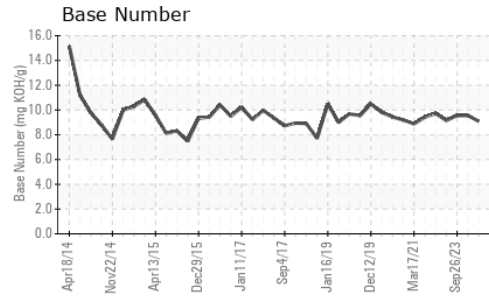
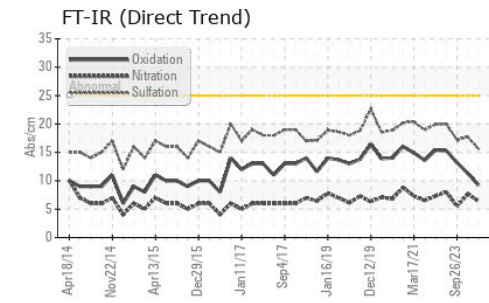
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	<b>5</b>	6	4
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	0	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>0.2</b>	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.4</b>	7.7	5.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>15.6</b>	17.7	17.2
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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>1</b>	0	<1
Boron	ppm	ASTM D5185m		<b>7</b>	2	5
Barium	ppm	ASTM D5185m		<b>0</b>	0	10
Molybdenum	ppm	ASTM D5185m		<b>11</b>	21	62
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>133</b>	301	847
Calcium	ppm	ASTM D5185m		<b>2361</b>	1791	1134
Phosphorus	ppm	ASTM D5185m		<b>960</b>	841	1076
Zinc	ppm	ASTM D5185m		<b>1094</b>	1091	1233
Sulfur	ppm	ASTM D5185m		<b>4279</b>	3190	3637
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>9.2</b>	11.3	13.2
Base Number (BN)	mg KOH/g	ASTM D2896		<b>9.09</b>	9.56	9.55
Visc @ 100°C	cSt	ASTM D445	15.6	<b>13.3</b>	13.1	14.1



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LP0001211 **Received** : 25 Jun 2024  
**Lab Number** : 06220422 **Tested** : 27 Jun 2024  
**Unique Number** : 11098619 **Diagnosed** : 27 Jun 2024 - Angela Borella  
**Test Package** : MOB 2 ( Additional Tests: TAN Man )

**S.M. LORUSSO & SONS**  
 10 GROVE ST  
 WEST ROXBURY, MA  
 US 02132  
 Contact: MARK ERWIN  
 merwin@smlorusso.com

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)