



# OIL ANALYSIS REPORT

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

Machine Id  
**FREIGHTLINER 118582**

Component  
**Front Diesel Engine**

Fluid  
**SAE 15W40 (11 GAL)**

## RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

## WEAR

All component wear rates are normal.

## CONTAMINATION

There is an abnormal amount of solids and carbon present in the oil.

## FLUID CONDITION

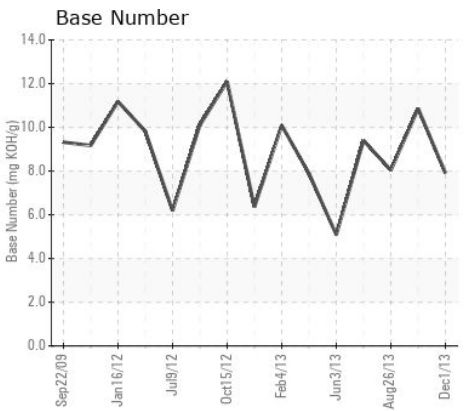
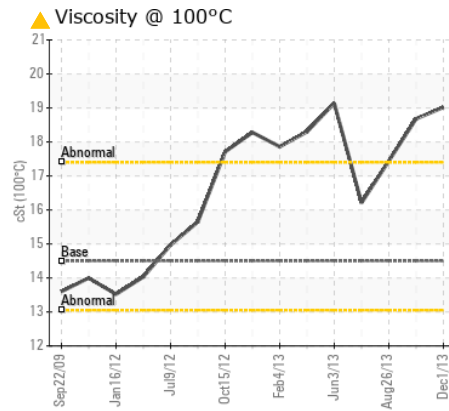
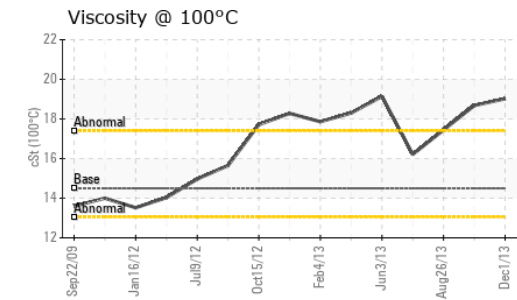
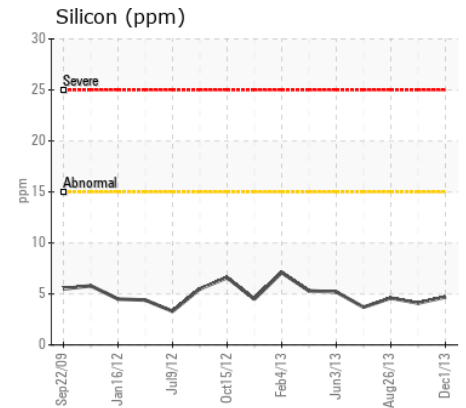
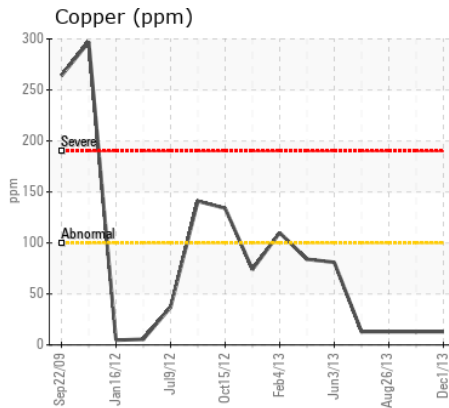
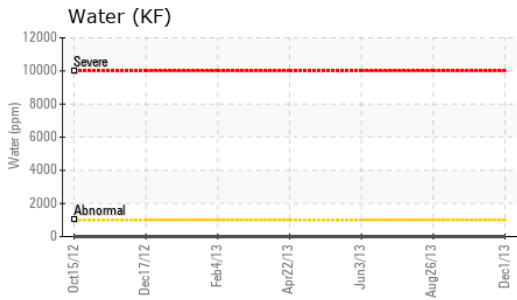
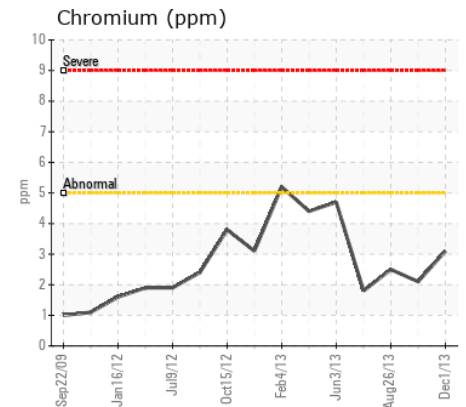
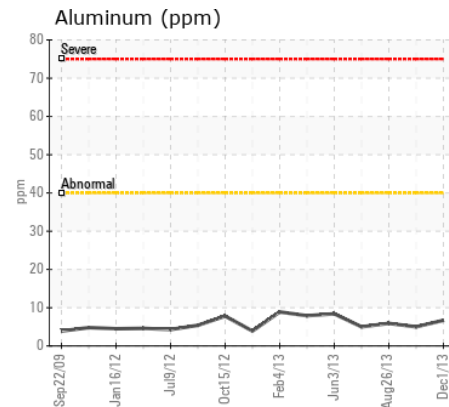
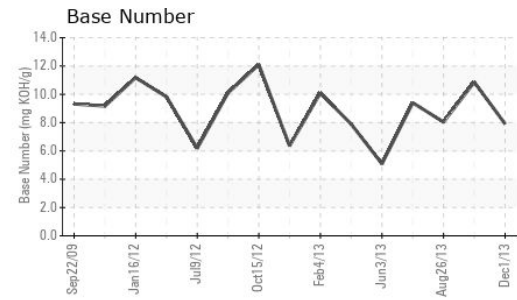
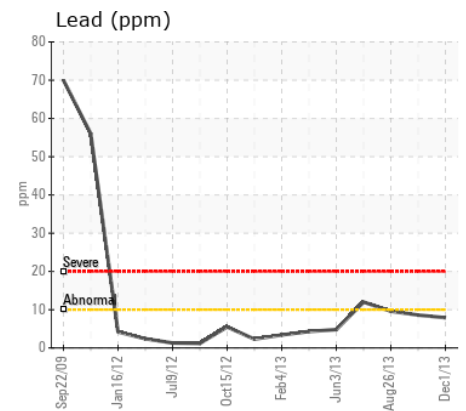
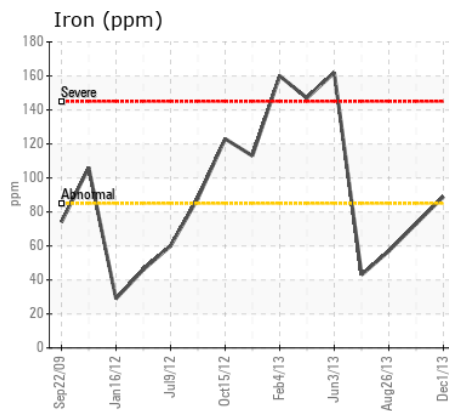
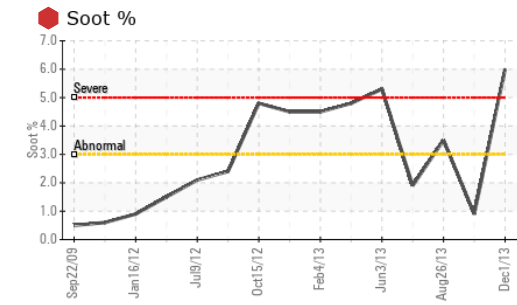
The oil viscosity is higher than normal. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>KLMFA13377</b>	KLMFA13453	KLMFA07594
Sample Date		Client Info		<b>01 Dec 2013</b>	21 Oct 2013	26 Aug 2013
Machine Age	mls	Client Info		<b>1808380</b>	1779560	1751927
Oil Age	mls	Client Info		<b>114510</b>	85731	58098
Filter Age	mls	Client Info		<b>114510</b>	85731	58098
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Sample Status				<b>SEVERE</b>	MARGINAL	ABNORMAL

Iron	ppm	ASTM D5185m	>85	<b>89</b>	73	57
Chromium	ppm	ASTM D5185m	>5	<b>3</b>	2	2
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	<1
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>40	<b>7</b>	5	6
Lead	ppm	ASTM D5185m	>10	<b>8</b>	9	10
Copper	ppm	ASTM D5185m	>100	<b>13</b>	13	13
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

Silicon	ppm	ASTM D5185m	>15	<b>5</b>	4	5
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	3	0
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water	%	ASTM D6304	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>6</b>	0.9	3.5
Nitration	Abs/cm	*ASTM D7624		<b>18.</b>	3.	9.
Sulfation	Abs/.1mm	*ASTM D7415		<b>38.</b>	12.	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	>0.1	<b>NEG</b>	NEG	NEG

Sodium	ppm	ASTM D5185m		<b>4</b>	4	3
Boron	ppm	ASTM D5185m		<b>46</b>	44	83
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>72</b>	67	67
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	2	<1
Magnesium	ppm	ASTM D5185m		<b>312</b>	297	299
Calcium	ppm	ASTM D5185m		<b>1568</b>	1540	1563
Phosphorus	ppm	ASTM D5185m		<b>913</b>	935	920
Zinc	ppm	ASTM D5185m		<b>1160</b>	1093	1156
Sulfur	ppm	ASTM D5185m		<b>1409</b>	1470	3551
Oxidation	Abs/.1mm	*ASTM D7414		<b>38.</b>	5.	13.
Base Number (BN)	mg KOH/g	ASTM D2896		<b>7.91</b>	10.86	8.04
Visc @ 100°C	cSt	ASTM D445	14.5	<b>19.02</b>	18.68	17.44



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KLMFA13377 **Received** : 09 Dec 2013  
**Lab Number** : 03411256 **Diagnosed** : 10 Dec 2013  
**Unique Number** : 6469043 **Diagnostician** : Don Baldrige  
**Test Package** : MOB 2 ( Additional Tests: KF, PQ )

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Certificate L2367  
 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)