



# OIL ANALYSIS REPORT

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

Machine Id  
**VOLVO 128904**  
Component  
**Front Diesel Engine**  
Fluid  
**SAE 15W40 (11 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>KLMFA12045</b>	KLMFA13592	KLMFA12063
Sample Date		Client Info		<b>01 Nov 2014</b>	06 Sep 2014	19 Jul 2014
Machine Age	mls	Client Info		<b>768522</b>	726963	210177
Oil Age	mls	Client Info		<b>351203</b>	309644	276420
Filter Age	mls	Client Info		<b>351203</b>	309644	276420
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>NORMAL</b>	ABNORMAL	MARGINAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>164</b>	255	236
Chromium	ppm	ASTM D5185m	>20	<b>3</b>	6	4
Nickel	ppm	ASTM D5185m	>2	<b>3</b>	4	3
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>25	<b>8</b>	13	11
Lead	ppm	ASTM D5185m	>40	<b>21</b>	36	24
Copper	ppm	ASTM D5185m	>330	<b>17</b>	39	48
Tin	ppm	ASTM D5185m	>15	<b>0</b>	4	9
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

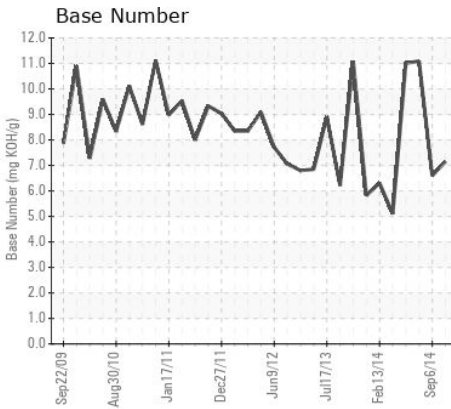
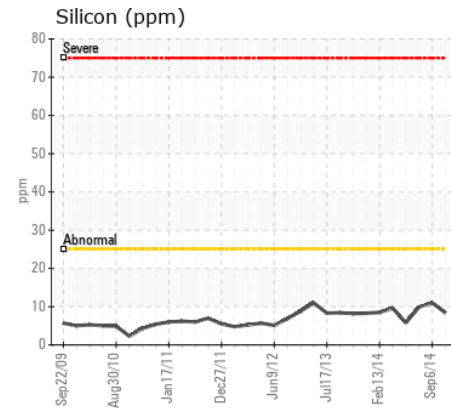
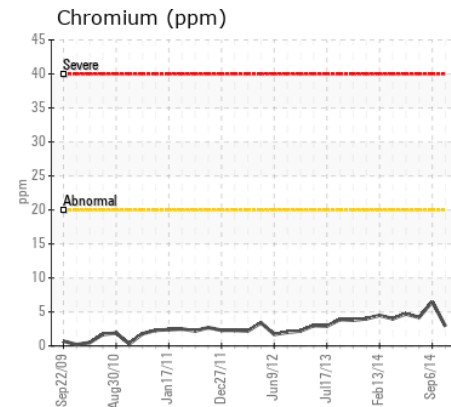
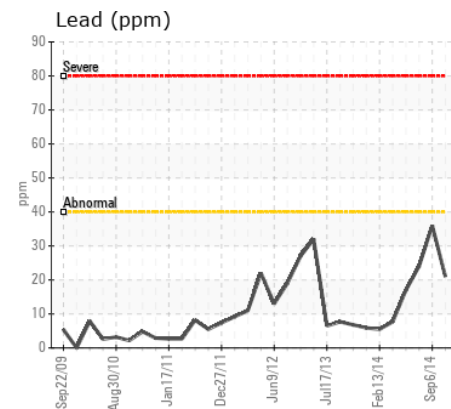
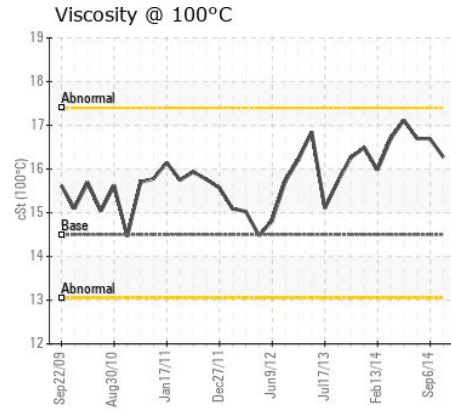
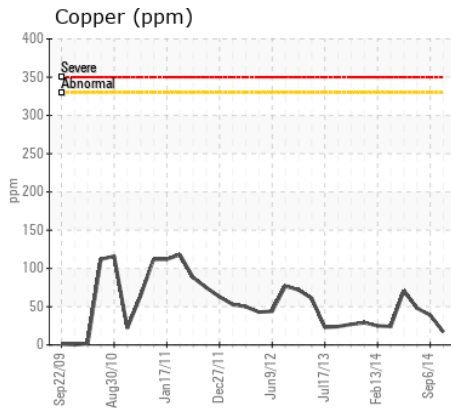
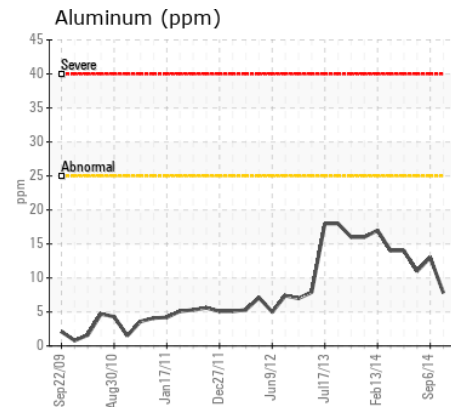
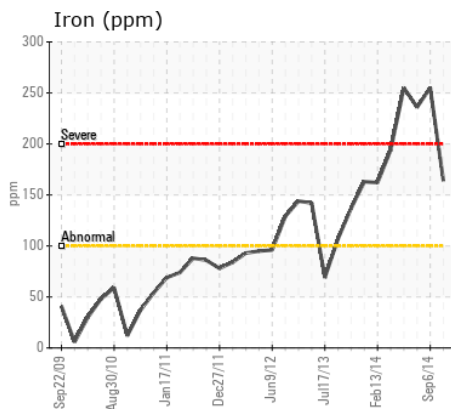
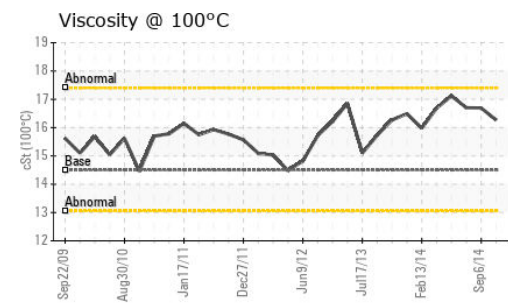
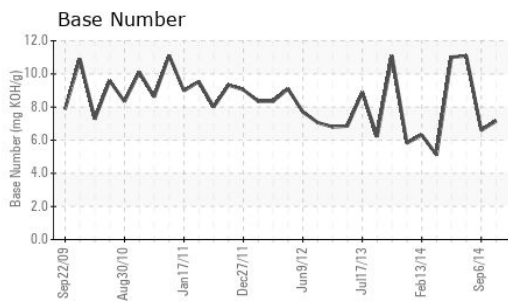
There is no indication of any contamination in the component.

Silicon	ppm	ASTM D5185m	>25	<b>8</b>	11	10
Potassium	ppm	ASTM D5185m	>20	<b>14</b>	1	3
Fuel		WC Method	>6.0	<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>2.2</b>	▲ 4.3	1.6
Nitration	Abs/cm	*ASTM D7624		<b>8.</b>	13.	6.
Sulfation	Abs/.1mm	*ASTM D7415		<b>21.</b>	30.	18.
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>5</b>	7	5
Boron	ppm	ASTM D5185m		<b>101</b>	60	78
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>92</b>	119	95
Manganese	ppm	ASTM D5185m		<b>2</b>	2	2
Magnesium	ppm	ASTM D5185m		<b>426</b>	412	394
Calcium	ppm	ASTM D5185m		<b>1878</b>	1952	2091
Phosphorus	ppm	ASTM D5185m		<b>1131</b>	1225	1186
Zinc	ppm	ASTM D5185m		<b>1336</b>	1419	1260
Sulfur	ppm	ASTM D5185m		<b>3049</b>	653	4173
Oxidation	Abs/.1mm	*ASTM D7414		<b>15.</b>	25.	11.
Base Number (BN)	mg KOH/g	ASTM D2896		<b>7.15</b>	6.60	11.09
Visc @ 100°C	cSt	ASTM D445	14.5	<b>16.27</b>	▲ 16.69	▲ 16.7



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KLMFA12045 **Received** : 10 Nov 2014  
**Lab Number** : 03621904 **Diagnosed** : 11 Nov 2014  
**Unique Number** : 6809881 **Diagnostician** : Jonathan Hester  
**Test Package** : MOB 2 ( Additional Tests: PQ )

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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)