



# OIL ANALYSIS REPORT

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

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

## RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>KLMFA12054</b>	KLMFA13438	KLMFA13367
Sample Date		Client Info		<b>13 Feb 2014</b>	28 Dec 2013	16 Nov 2013
Machine Age	mls	Client Info		<b>2642603</b>	2613783	2583456
Oil Age	mls	Client Info		<b>159042</b>	130222	99895
Filter Age	mls	Client Info		<b>159042</b>	130222	99895
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>ABNORMAL</b>	ABNORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>162</b>	163	137
Chromium	ppm	ASTM D5185m	>20	<b>4</b>	4	4
Nickel	ppm	ASTM D5185m	>2	<b>3</b>	2	2
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>17</b>	16	16
Lead	ppm	ASTM D5185m	>40	<b>6</b>	6	7
Copper	ppm	ASTM D5185m	>330	<b>25</b>	29	27
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	2
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

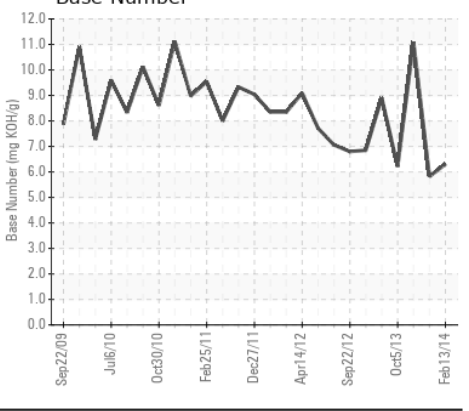
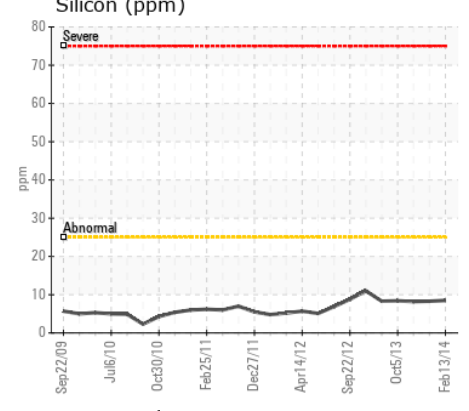
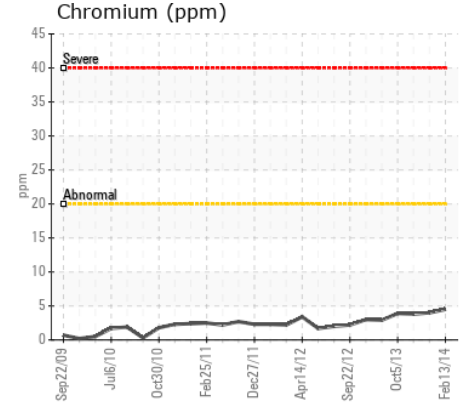
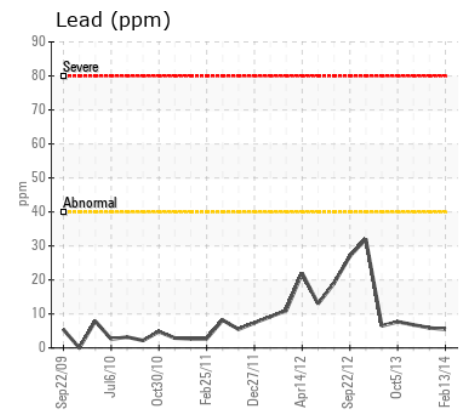
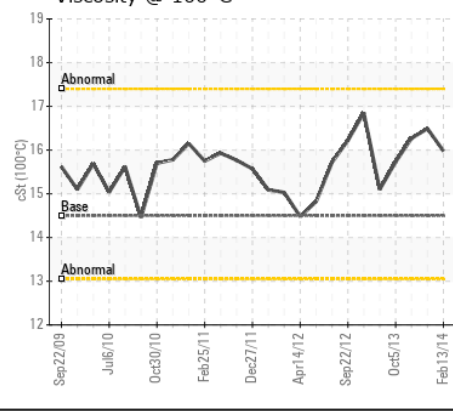
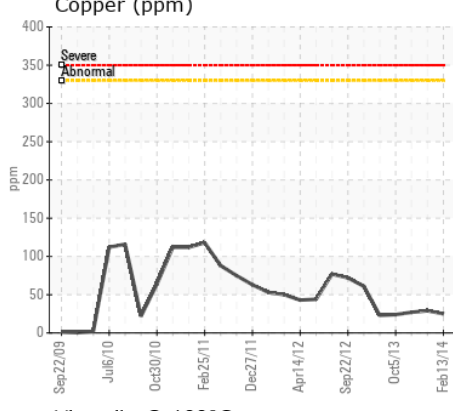
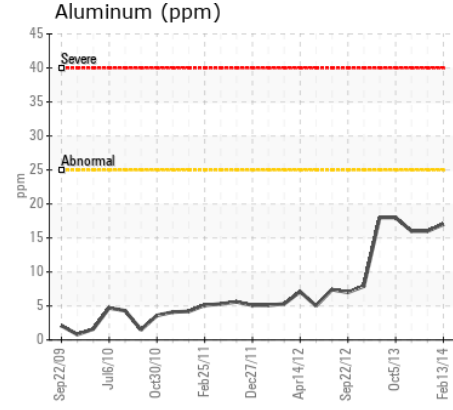
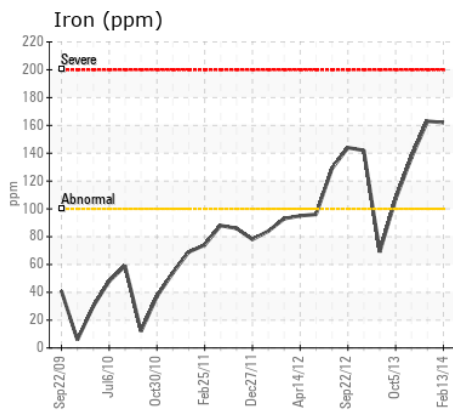
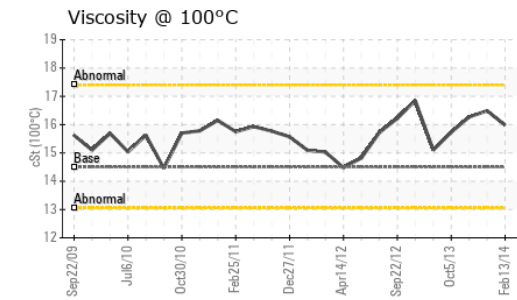
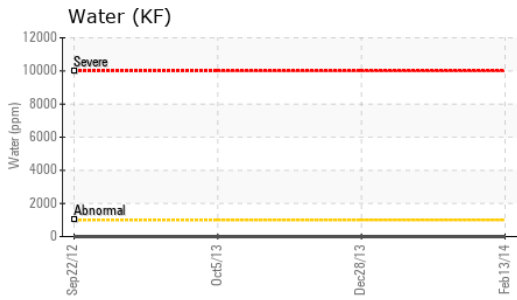
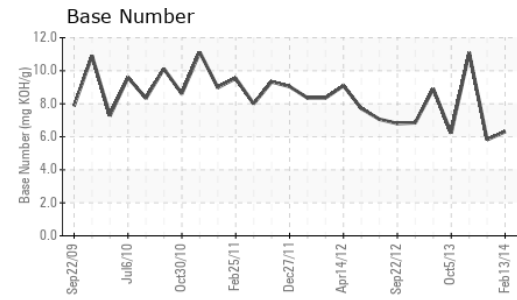
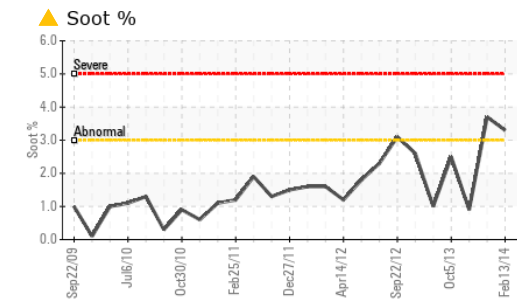
There is an abnormal amount of solids and carbon present in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>8</b>	8	8
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	<1	0
Fuel		WC Method	>6.0	<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>3.3</b>	3.7	0.9
Nitration	Abs/cm	*ASTM D7624		<b>10.</b>	11.	5.
Sulfation	Abs/.1mm	*ASTM D7415		<b>28.</b>	29.	15.
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

## 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>8</b>	7	8
Boron	ppm	ASTM D5185m		<b>70</b>	67	50
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>94</b>	92	91
Manganese	ppm	ASTM D5185m		<b>2</b>	2	2
Magnesium	ppm	ASTM D5185m		<b>368</b>	367	366
Calcium	ppm	ASTM D5185m		<b>1745</b>	1651	1684
Phosphorus	ppm	ASTM D5185m		<b>1068</b>	1086	1014
Zinc	ppm	ASTM D5185m		<b>1276</b>	1293	1283
Sulfur	ppm	ASTM D5185m		<b>1166</b>	1072	1232
Oxidation	Abs/.1mm	*ASTM D7414		<b>20.</b>	23.	9.
Base Number (BN)	mg KOH/g	ASTM D2896		<b>6.31</b>	5.82	11.09
Visc @ 100°C	cSt	ASTM D445	14.5	<b>15.98</b>	16.49	16.27



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KLMFA12054 **Received** : 24 Feb 2014  
**Lab Number** : 03453896 **Diagnosed** : 25 Feb 2014  
**Unique Number** : 6536704 **Diagnostician** : Don Baldrige  
**Test Package** : MOB 2 ( Additional Tests: KF, PQ )

**EDAN FARMS INC.**  
 13549 WOODWORTH RD.  
 NEW SPRINGFIELD, OH  
 US 44443  
 Contact: ERIC SCHAEFER  
 leslie.edan@zoominternet.net  
 T: (330)549-5567  
 F: (330)549-0255

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)