



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**VOLVO 110087**

Component  
**Diesel Engine**

Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

## WEAR

All component wear rates are normal.

## CONTAMINATION

There is no indication of any contamination in the component.

## FLUID CONDITION

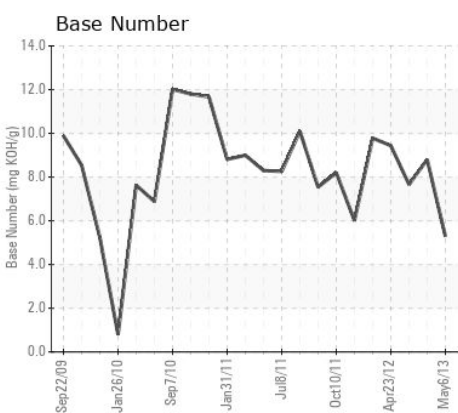
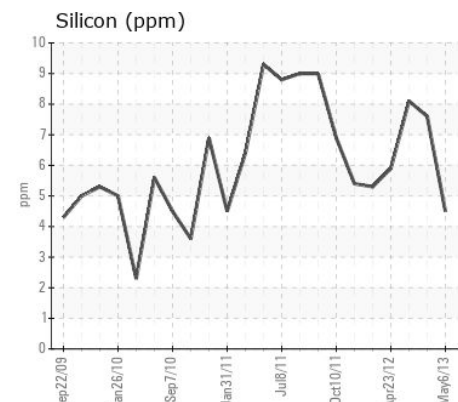
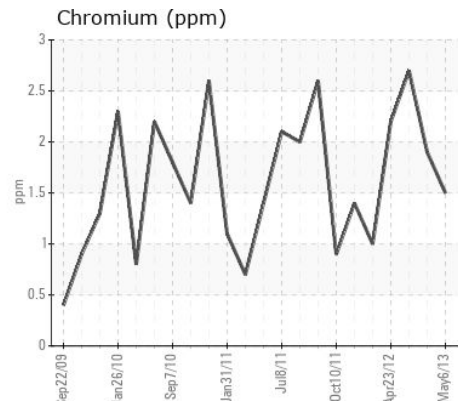
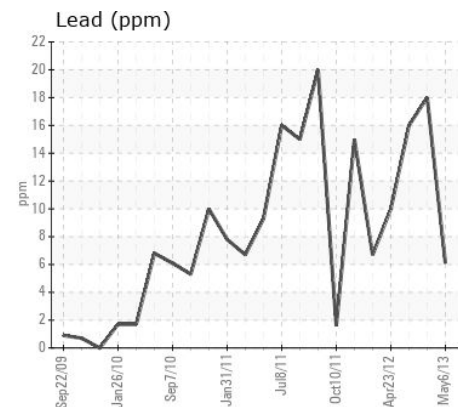
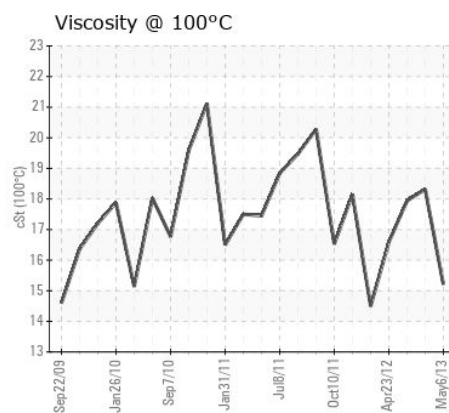
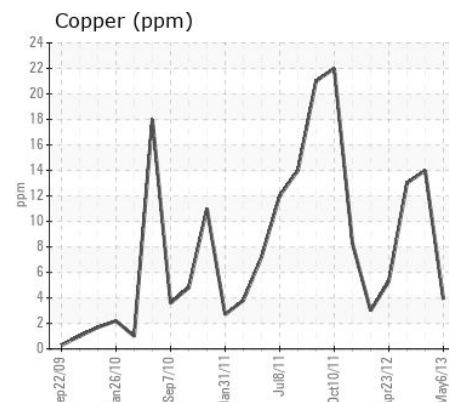
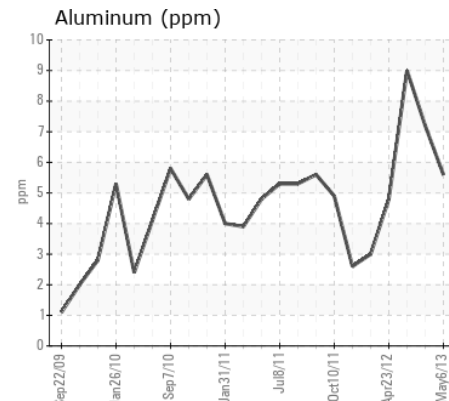
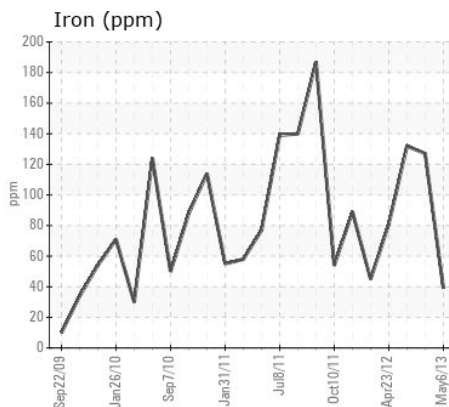
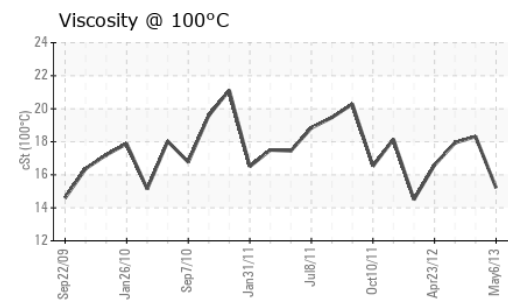
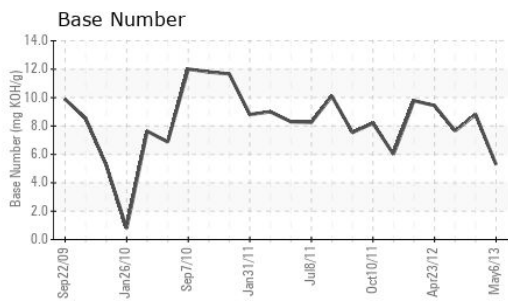
The TBN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>KLMFA06556</b>	KLMFA04301	KLMFA02106
Sample Date		Client Info		<b>06 May 2013</b>	11 Dec 2012	31 Jul 2012
Machine Age	mls	Client Info		<b>2295645</b>	2261348	2251116
Oil Age	mls	Client Info		<b>34303</b>	103551	93319
Filter Age	mls	Client Info		<b>34303</b>	103551	93319
Oil Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Sample Status				<b>NORMAL</b>	ABNORMAL	ABNORMAL

Iron	ppm	ASTM D5185m		<b>39</b>	127	▲ 132
Chromium	ppm	ASTM D5185m		<b>2</b>	2	3
Nickel	ppm	ASTM D5185m		<b>&lt;1</b>	4	3
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m		<b>6</b>	7	9
Lead	ppm	ASTM D5185m		<b>6</b>	18	16
Copper	ppm	ASTM D5185m		<b>4</b>	14	13
Tin	ppm	ASTM D5185m		<b>&lt;1</b>	2	1
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		<b>4</b>	8	8
Potassium	ppm	ASTM D5185m		<b>2</b>	3	4
Fuel		WC Method		<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method		<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>1.6</b>	2	2.5
Nitration	Abs/cm	*ASTM D7624		<b>12.</b>	9.	11.
Sulfation	Abs/.1mm	*ASTM D7415		<b>29.</b>	26.	28.
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		<b>NEG</b>	NEG	NEG

Sodium	ppm	ASTM D5185m		<b>32</b>	30	36
Boron	ppm	ASTM D5185m		<b>68</b>	50	46
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>82</b>	62	80
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	3	1
Magnesium	ppm	ASTM D5185m		<b>343</b>	214	280
Calcium	ppm	ASTM D5185m		<b>1787</b>	2497	2695
Phosphorus	ppm	ASTM D5185m		<b>1023</b>	1224	1351
Zinc	ppm	ASTM D5185m		<b>1266</b>	1286	1576
Sulfur	ppm	ASTM D5185m		<b>3888</b>	2992	3666
Oxidation	Abs/.1mm	*ASTM D7414		<b>23.</b>	18.	20.
Base Number (BN)	mg KOH/g	ASTM D2896		<b>5.29</b>	8.80	7.66
Visc @ 100°C	cSt	ASTM D445		<b>15.21</b>	▲ 18.32	▲ 17.94
Fluid Type		*In-house		<b>SAE_ENG_DE</b>	UNKNOWN	SAE_ENG_DE



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KLMFA06556 **Received** : 16 May 2013  
**Lab Number** : 03286746 **Diagnosed** : 17 May 2013  
**Unique Number** : 6264409 **Diagnostician** : Wes Davis  
**Test Package** : MOB 2 ( Additional Tests: FluidDetermination )

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)

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