



OIL ANALYSIS REPORT

WEAR
CONTAMINATION
FLUID CONDITION

ATTENTION
NORMAL
NORMAL

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

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL03712469	KLMFA09315	KLMFA13345
Sample Date		Client Info		21 Mar 2015	07 Feb 2015	13 Dec 2014
Machine Age	mls	Client Info		856356	822369	799665
Oil Age	mls	Client Info		439125	405138	382346
Filter Age	mls	Client Info		439125	405138	382346
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				ATTENTION	NORMAL	NORMAL

WEAR

An increase in the copper level is noted.

Iron	ppm	ASTM D5185m	>100	37	95	121
Chromium	ppm	ASTM D5185m	>20	2	2	2
Nickel	ppm	ASTM D5185m	>2	<1	2	2
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	6	7	7
Lead	ppm	ASTM D5185m	>40	28	27	19
Copper	ppm	ASTM D5185m	>330	▲ 62	8	11
Tin	ppm	ASTM D5185m	>15	<1	<1	4
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the component.

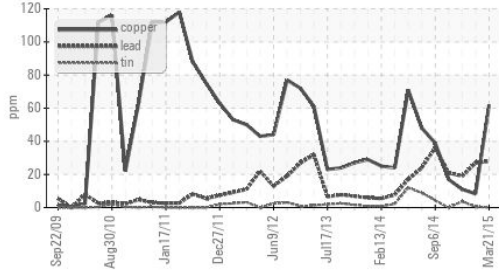
Silicon	ppm	ASTM D5185m	>25	4	6	5
Potassium	ppm	ASTM D5185m	>20	0	1	2
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.9	2.2	0.8
Nitration	Abs/cm	*ASTM D7624		7.	11.	5.
Sulfation	Abs/.1mm	*ASTM D7415		21.	28.	16.
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

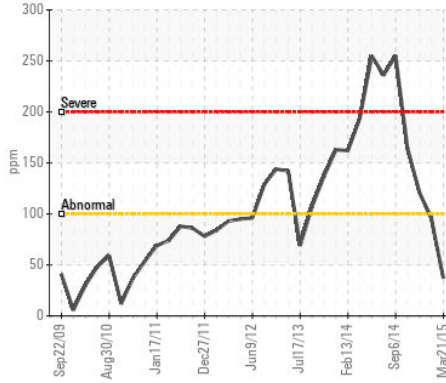
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		4	5	4
Boron	ppm	ASTM D5185m		218	124	105
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		79	84	89
Manganese	ppm	ASTM D5185m		0	<1	1
Magnesium	ppm	ASTM D5185m		332	382	372
Calcium	ppm	ASTM D5185m		1678	1708	1665
Phosphorus	ppm	ASTM D5185m		977	1090	1021
Zinc	ppm	ASTM D5185m		1167	1216	1088
Sulfur	ppm	ASTM D5185m		1623	3054	2811
Oxidation	Abs/.1mm	*ASTM D7414		14.	24.	9.
Base Number (BN)	mg KOH/g	ASTM D2896		8.04	4.93	9.94
Visc @ 100°C	cSt	ASTM D445	14.5	13.83	14.47	15.03

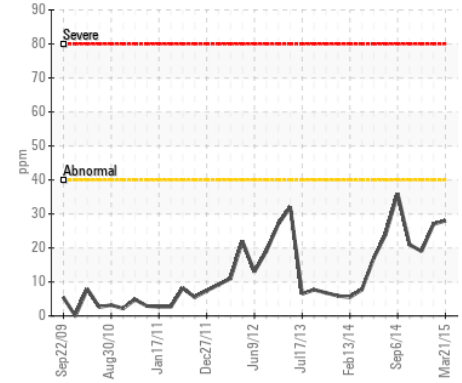
▲ Non-ferrous Metals



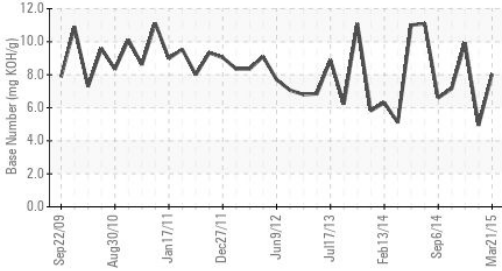
Iron (ppm)



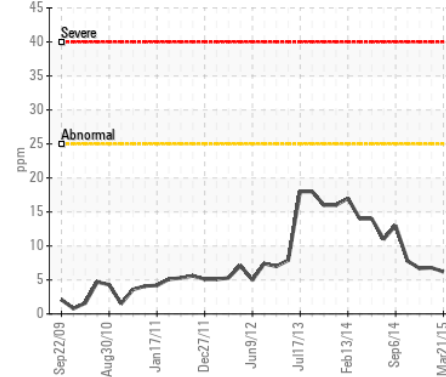
Lead (ppm)



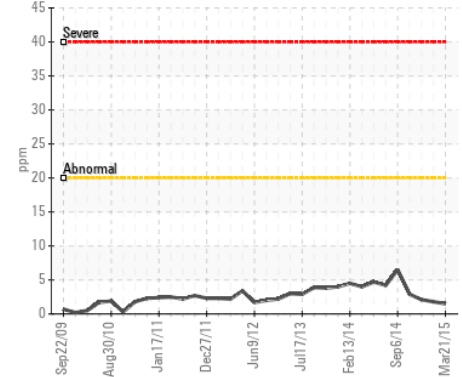
Base Number



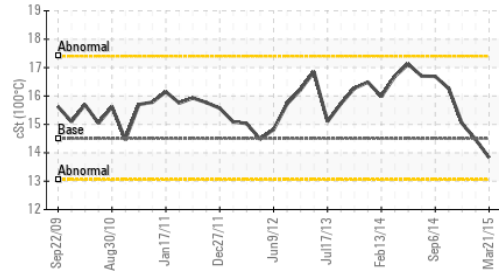
Aluminum (ppm)



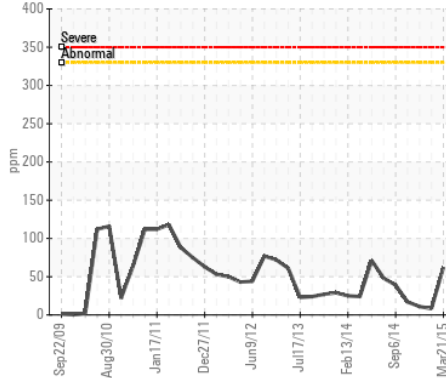
Chromium (ppm)



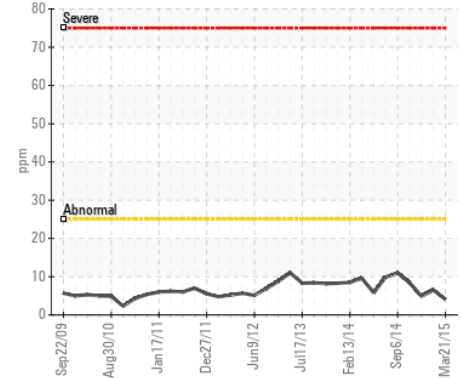
Viscosity @ 100°C



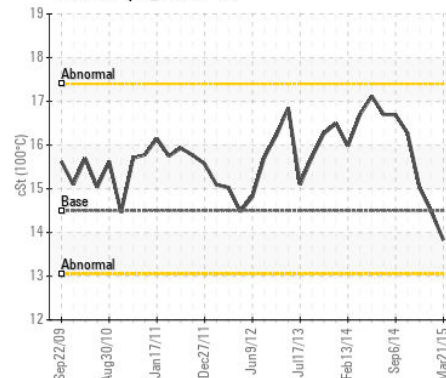
▲ Copper (ppm)



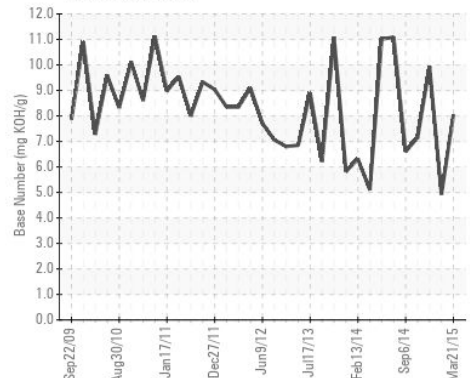
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL03712469 **Received** : 01 Apr 2015
Lab Number : 03712469 **Diagnosed** : 02 Apr 2015
Unique Number : 6955469 **Diagnostician** : Don Baldridge
Test Package : MOB 2

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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)