



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
VOLVO 128904
Component
Front Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (11 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KLMFA13345	KLMFA12045	KLMFA13592
Sample Date		Client Info		13 Dec 2014	01 Nov 2014	06 Sep 2014
Machine Age	mls	Client Info		799665	768522	726963
Oil Age	mls	Client Info		382346	351203	309644
Filter Age	mls	Client Info		382346	351203	309644
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	121	164	255
Chromium	ppm	ASTM D5185m	>20	2	3	6
Nickel	ppm	ASTM D5185m	>2	2	3	4
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>25	7	8	13
Lead	ppm	ASTM D5185m	>40	19	21	36
Copper	ppm	ASTM D5185m	>330	11	17	39
Tin	ppm	ASTM D5185m	>15	4	0	4
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

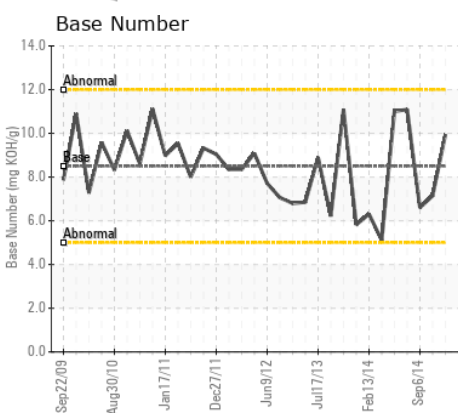
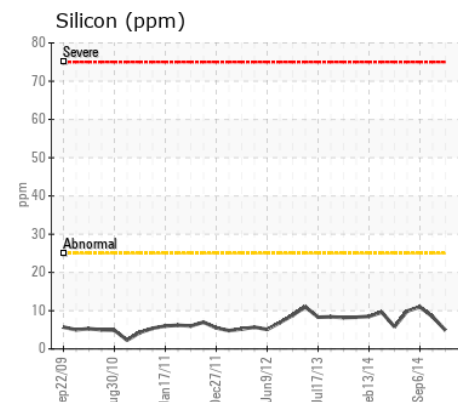
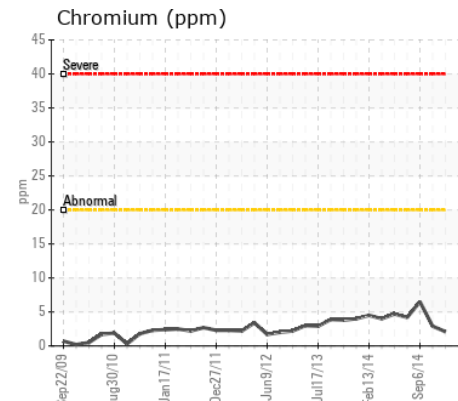
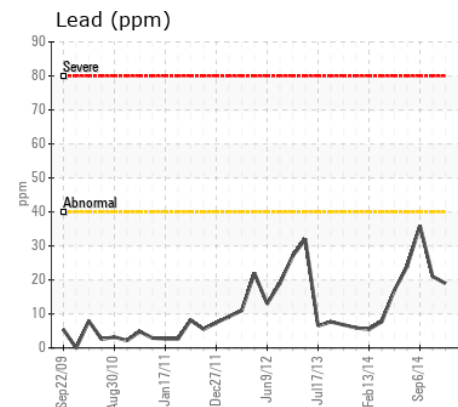
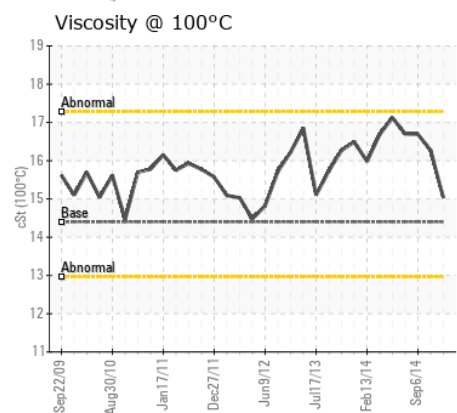
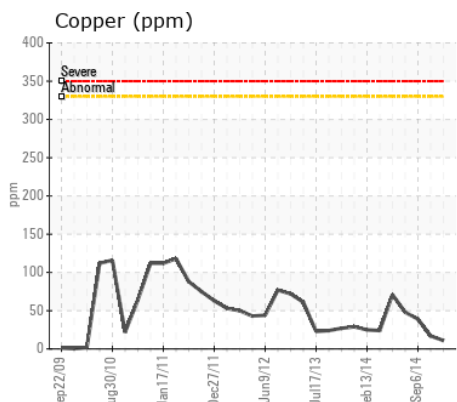
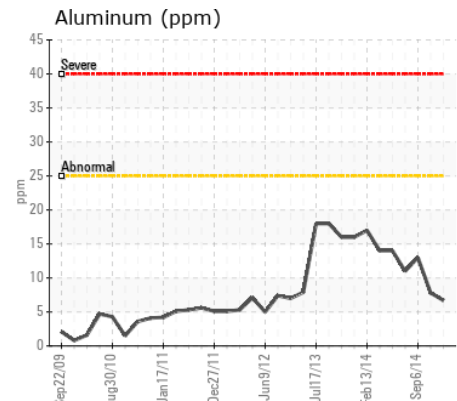
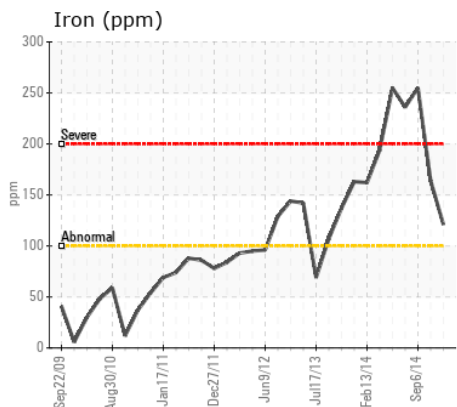
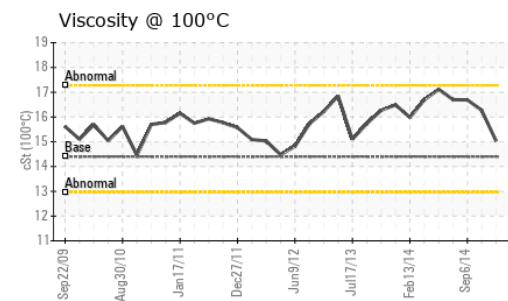
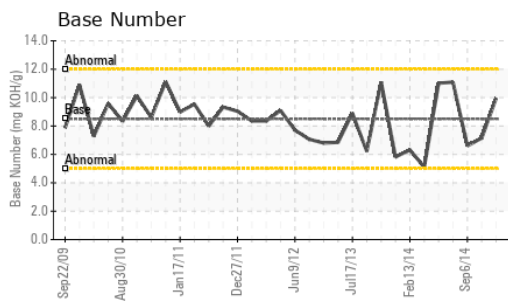
There is no indication of any contamination in the component.

Silicon	ppm	ASTM D5185m	>25	5	8	11
Potassium	ppm	ASTM D5185m	>20	2	14	1
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	0.8	2.2	▲ 4.3
Nitration	Abs/cm	*ASTM D7624		5.	8.	13.
Sulfation	Abs/.1mm	*ASTM D7415		16.	21.	30.
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	7
Boron	ppm	ASTM D5185m	250	105	101	60
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	89	92	119
Manganese	ppm	ASTM D5185m		1	2	2
Magnesium	ppm	ASTM D5185m	450	372	426	412
Calcium	ppm	ASTM D5185m	3000	1665	1878	1952
Phosphorus	ppm	ASTM D5185m	1150	1021	1131	1225
Zinc	ppm	ASTM D5185m	1350	1088	1336	1419
Sulfur	ppm	ASTM D5185m	4250	2811	3049	653
Oxidation	Abs/.1mm	*ASTM D7414		9.	15.	25.
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	9.94	7.15	6.60
Visc @ 100°C	cSt	ASTM D445	14.4	15.03	16.27	▲ 16.69



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KLMFA13345 **Received** : 23 Dec 2014
Lab Number : 03650518 **Diagnosed** : 24 Dec 2014
Unique Number : 6858499 **Diagnostician** : Don Baldrige
Test Package : MOB 2 (Additional Tests: 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)