



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
VOLVO 118518
Component
Front Diesel Engine
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (40 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KLMFA07587	KLMFA07580	KLMFA08634
Sample Date		Client Info		13 Jul 2013	01 Jun 2013	20 Apr 2013
Machine Age	mls	Client Info		509165	479049	450829
Oil Age	mls	Client Info		121723	91607	63389
Filter Age	mls	Client Info		121723	91607	63389
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	ATTENTION	NORMAL

WEAR

All component wear rates are normal for time on oil.

Iron	ppm	ASTM D5185m		247	208	145
Chromium	ppm	ASTM D5185m		6	6	5
Nickel	ppm	ASTM D5185m		5	6	6
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m		22	23	22
Lead	ppm	ASTM D5185m		43	46	23
Copper	ppm	ASTM D5185m		94	▲ 94	31
Tin	ppm	ASTM D5185m		4	6	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

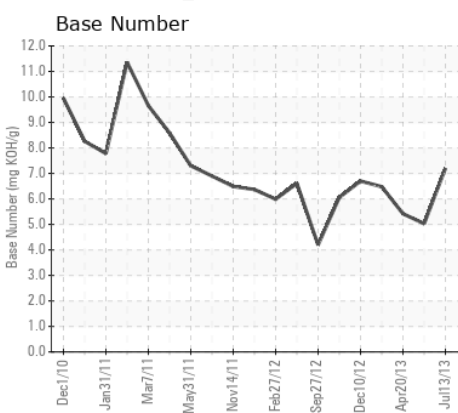
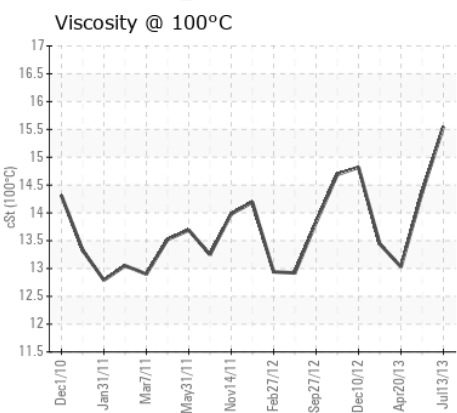
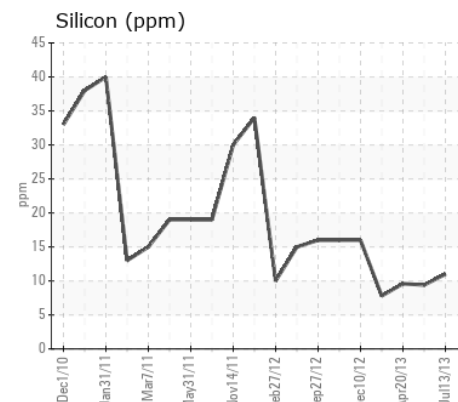
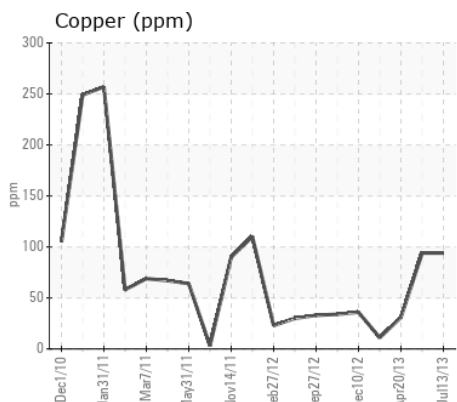
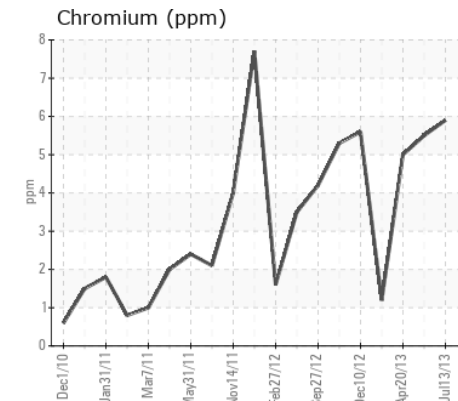
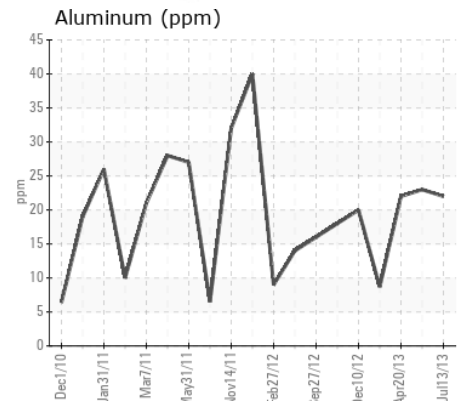
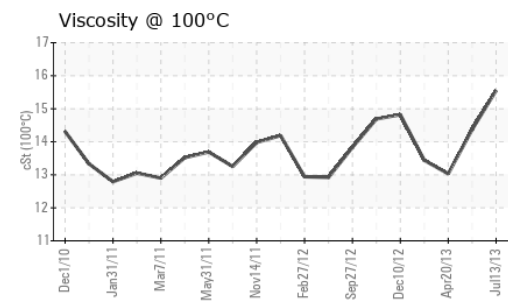
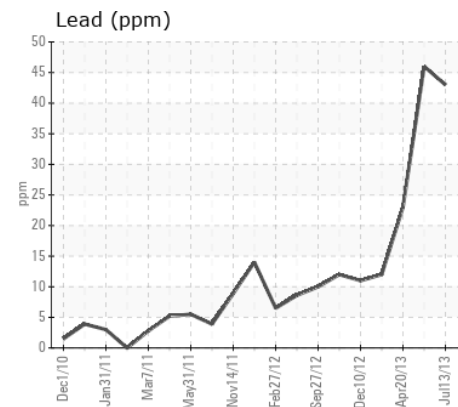
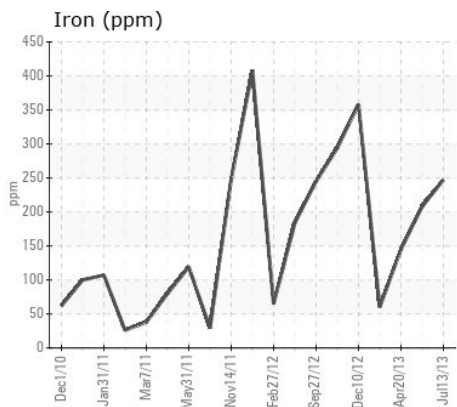
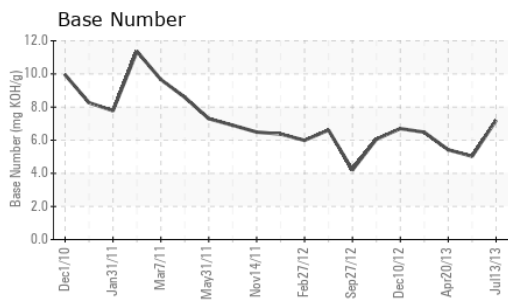
There is no indication of any contamination in the component.

Silicon	ppm	ASTM D5185m		11	9	10
Potassium	ppm	ASTM D5185m		7	6	6
Fuel		WC Method		<1.0	<1.0	<1.0
Water		WC Method		NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		1.1	1.4	1.1
Nitration	Abs/cm	*ASTM D7624		10.	13.	12.
Sulfation	Abs/.1mm	*ASTM D7415		25.	31.	28.
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		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		15	15	12
Boron	ppm	ASTM D5185m		55	42	35
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		76	71	62
Manganese	ppm	ASTM D5185m		5	6	4
Magnesium	ppm	ASTM D5185m		287	266	231
Calcium	ppm	ASTM D5185m		1698	1661	1664
Phosphorus	ppm	ASTM D5185m		993	1014	941
Zinc	ppm	ASTM D5185m		1219	1098	980
Sulfur	ppm	ASTM D5185m		3333	3906	4410
Oxidation	Abs/.1mm	*ASTM D7414		25.	31.	27.
Base Number (BN)	mg KOH/g	ASTM D2896		7.2	5.03	5.42
Visc @ 100°C	cSt	ASTM D445		15.55	14.37	13.03
Fluid Type		*In-house		SAE_ENG_DE	SAE_ENG_DE	*SAE_ENG_DE



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KLMFA07587 **Received** : 22 Jul 2013
Lab Number : 03324734 **Diagnosed** : 23 Jul 2013
Unique Number : 6327434 **Diagnostician** : Don Baldrige
Test Package : MOB 2 (Additional Tests: FluidDetermination, 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)