



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
FREIGHTLINER 118582

Component
Front Diesel Engine

Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (11 GAL)

RECOMMENDATION

No corrective action is recommended at this time. The 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		KLMFA08632	KLMFA08640	KLMFA06568
Sample Date		Client Info		22 Apr 2013	04 Feb 2013	17 Dec 2012
Machine Age	mls	Client Info		1665054	1632314	1601534
Oil Age	mls	Client Info		213705	180945	150165
Filter Age	mls	Client Info		213705	180945	150165
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m		147	▲ 160	113
Chromium	ppm	ASTM D5185m		4	5	3
Nickel	ppm	ASTM D5185m		1	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m		8	9	4
Lead	ppm	ASTM D5185m		4	3	2
Copper	ppm	ASTM D5185m		84	▲ 110	74
Tin	ppm	ASTM D5185m		2	0	2
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

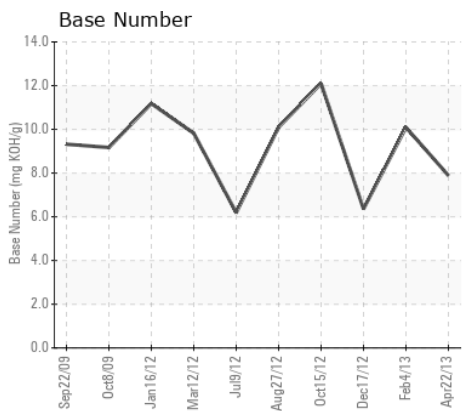
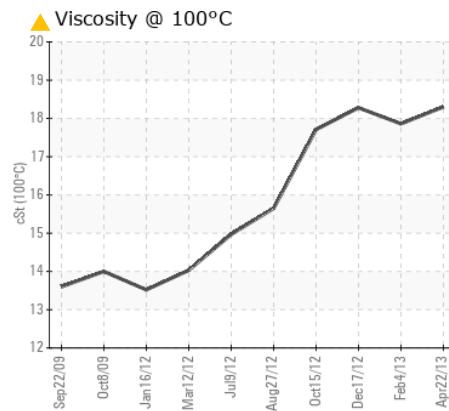
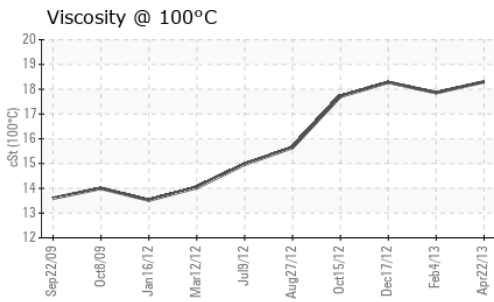
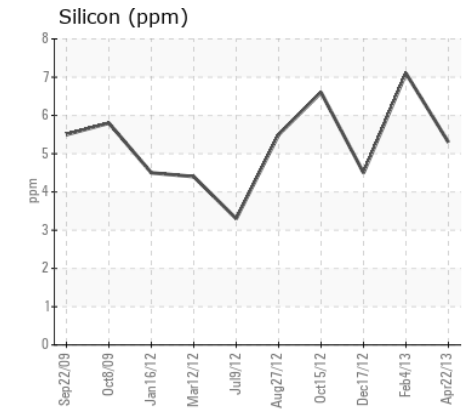
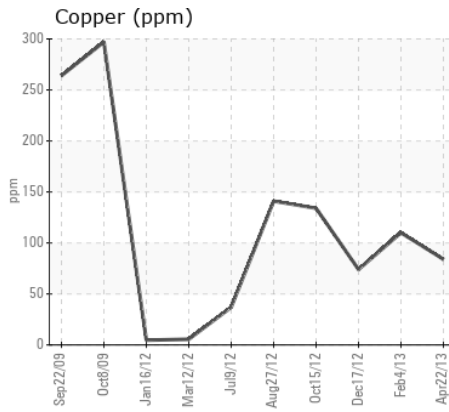
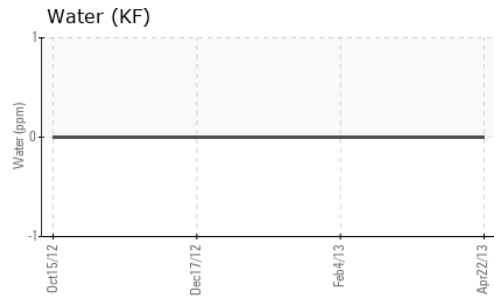
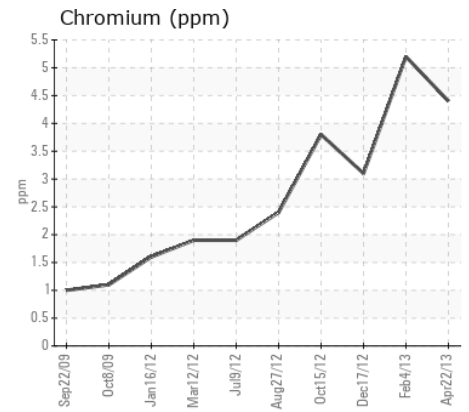
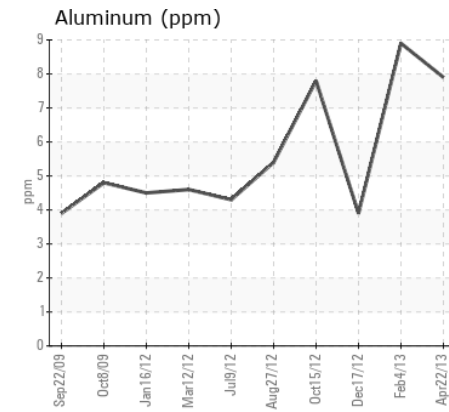
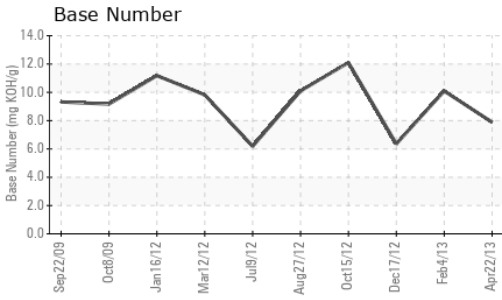
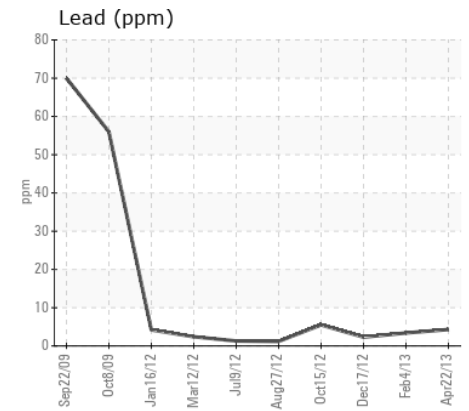
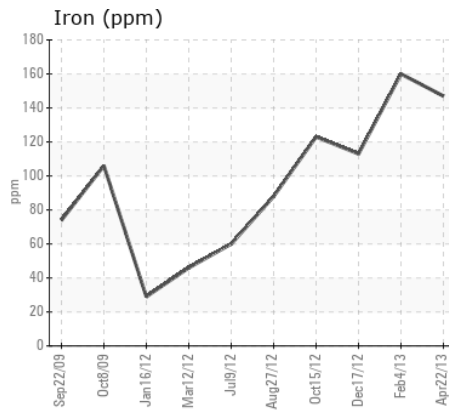
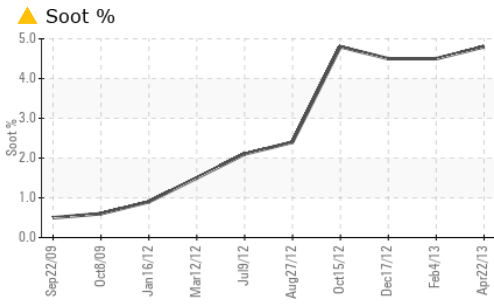
There is an abnormal amount of solids and carbon present in the oil.

Silicon	ppm	ASTM D5185m		5	7	4
Potassium	ppm	ASTM D5185m		3	<1	3
Fuel		WC Method		<1.0	<1.0	<1.0
Water	%	ASTM D6304		NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		▲ 4.8	▲ 4.5	▲ 4.5
Nitration	Abs/cm	*ASTM D7624		12.	11.	10.
Sulfation	Abs/.1mm	*ASTM D7415		29.	30.	29.
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 oil viscosity is higher than normal.

Sodium	ppm	ASTM D5185m		5	6	2
Boron	ppm	ASTM D5185m		52	56	58
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		52	55	36
Manganese	ppm	ASTM D5185m		1	1	1
Magnesium	ppm	ASTM D5185m		241	262	215
Calcium	ppm	ASTM D5185m		2036	2023	1754
Phosphorus	ppm	ASTM D5185m		969	1074	968
Zinc	ppm	ASTM D5185m		1043	1301	1013
Sulfur	ppm	ASTM D5185m		4591	2843	2940
Oxidation	Abs/.1mm	*ASTM D7414		19.	18.	15.
Base Number (BN)	mg KOH/g	ASTM D2896		7.89	10.09	6.36
Visc @ 100°C	cSt	ASTM D445		▲ 18.3	▲ 17.86	▲ 18.28
Fluid Type		*In-house		*SAE_ENG_DE	SAE_ENG_DE	UNKNOWN



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KLMFA08632 **Received** : 06 May 2013
Lab Number : 03279133 **Diagnosed** : 08 May 2013
Unique Number : 6251791 **Diagnostician** : Don Baldrige
Test Package : MOB 2 (Additional Tests: FluidDetermination, KF, PQ)

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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)