



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
FREIGHTLINER 118582

Component
Front Diesel Engine

Fluid
SAE 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		KLMFA07594	KLMFA07628	KLMFA08639
Sample Date		Client Info		26 Aug 2013	15 Jul 2013	03 Jun 2013
Machine Age	mls	Client Info		1751927	1722367	1693821
Oil Age	mls	Client Info		58098	28538	252472
Filter Age	mls	Client Info		58098	28538	252472
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Filter Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				ABNORMAL	NORMAL	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m		57	43	162
Chromium	ppm	ASTM D5185m		2	2	5
Nickel	ppm	ASTM D5185m		0	0	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m		6	5	8
Lead	ppm	ASTM D5185m		10	12	5
Copper	ppm	ASTM D5185m		13	13	81
Tin	ppm	ASTM D5185m		0	0	3
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

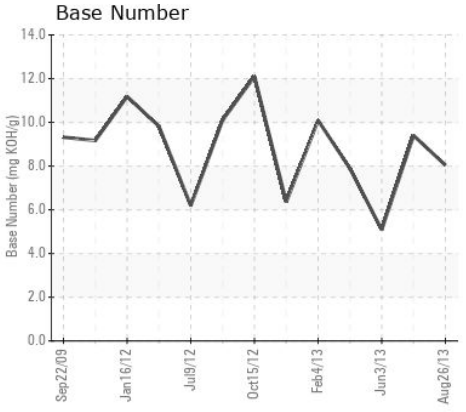
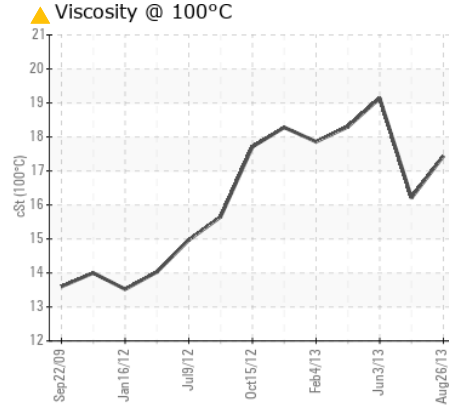
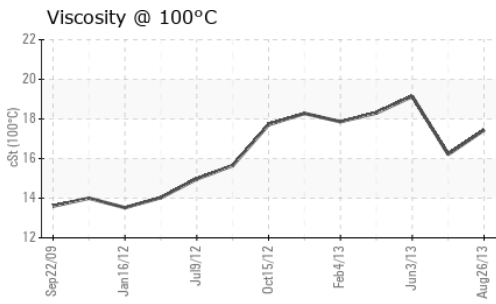
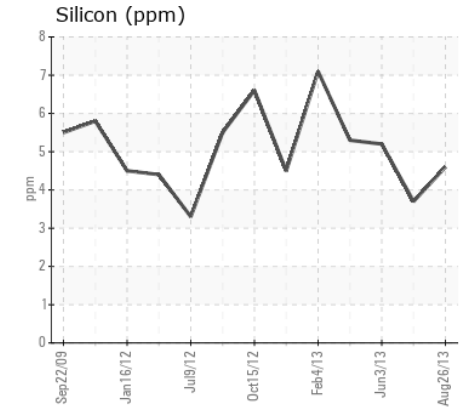
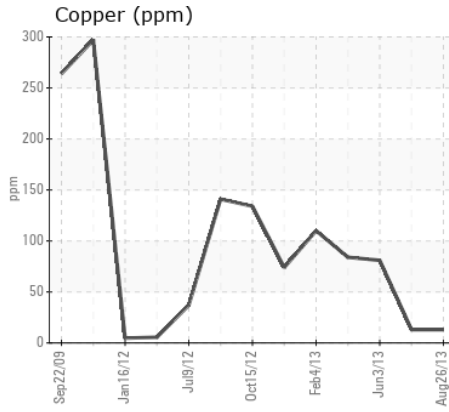
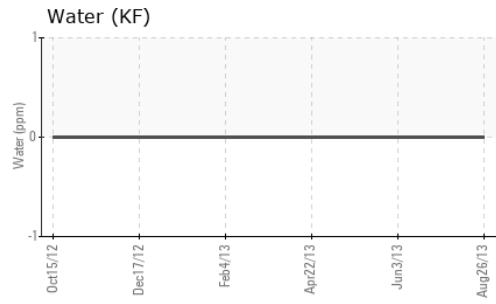
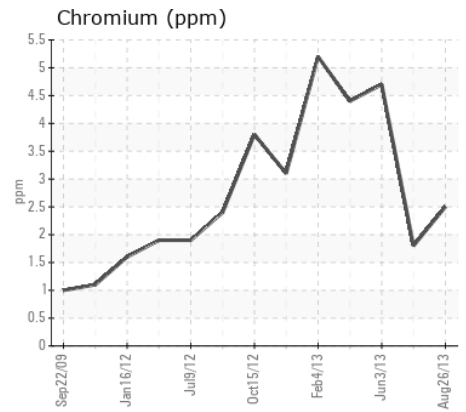
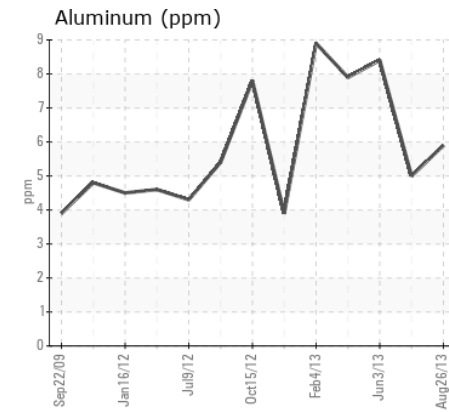
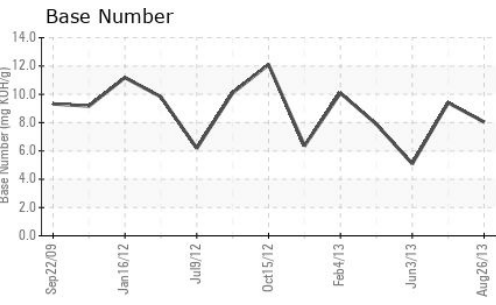
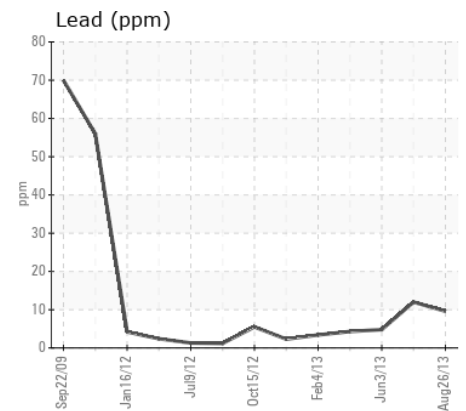
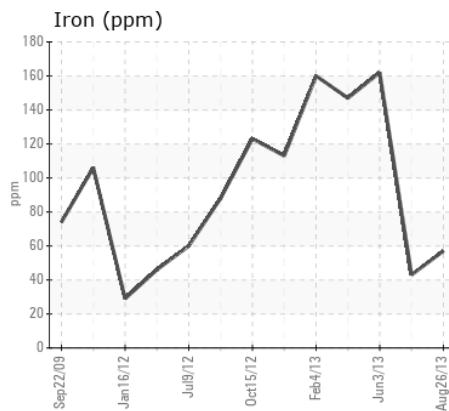
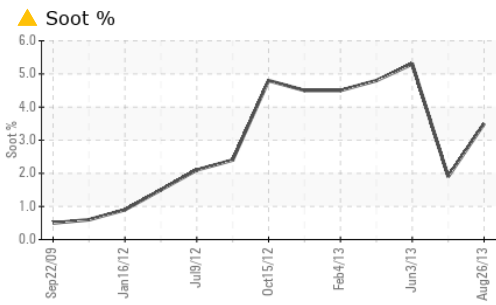
There is an abnormal amount of solids and carbon present in the oil.

Silicon	ppm	ASTM D5185m		5	4	5
Potassium	ppm	ASTM D5185m		0	2	3
Fuel		WC Method		<1.0	<1.0	0.0
Water	%	ASTM D6304		NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		▲ 3.5	1.9	▲ 5.3
Nitration	Abs/cm	*ASTM D7624		9.	6.	13.
Sulfation	Abs/.1mm	*ASTM D7415		24.	19.	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		NEG	NEG	NEG

FLUID CONDITION

The oil viscosity is higher than normal.

Sodium	ppm	ASTM D5185m		3	2	6
Boron	ppm	ASTM D5185m		83	180	36
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		67	66	60
Manganese	ppm	ASTM D5185m		<1	<1	2
Magnesium	ppm	ASTM D5185m		299	289	280
Calcium	ppm	ASTM D5185m		1563	1654	1935
Phosphorus	ppm	ASTM D5185m		920	966	994
Zinc	ppm	ASTM D5185m		1156	1208	1129
Sulfur	ppm	ASTM D5185m		3551	3742	4052
Oxidation	Abs/.1mm	*ASTM D7414		13.	10.	19.
Base Number (BN)	mg KOH/g	ASTM D2896		8.04	9.4	5.09
Visc @ 100°C	cSt	ASTM D445		▲ 17.44	16.21	▲ 19.14
Fluid Type		*In-house		SAE_ENG_DE	*SAE_ENG_DE	*SAE_ENG_DE



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KLMFA07594 **Received** : 09 Sep 2013
Lab Number : 03353533 **Diagnosed** : 11 Sep 2013
Unique Number : 6376285 **Diagnostician** : Don Baldrige
Test Package : MOB 2 (Additional Tests: FluidDetermination, KF)

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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)