



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 110910

Component
Front Diesel Engine

Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (10 GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KLMFA09346	KLMFA13348	KLMFA13378
Sample Date		Client Info		04 Feb 2015	17 Nov 2014	04 Nov 2014
Machine Age	mls	Client Info		1397782	1367227	1359301
Oil Age	mls	Client Info		190177	159622	151696
Filter Age	mls	Client Info		190177	159622	151696
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

The iron level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>125	▲ 156	113	▲ 131
Chromium	ppm	ASTM D5185m	>10	6	4	5
Nickel	ppm	ASTM D5185m	>4	<1	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m		<1	0	0
Aluminum	ppm	ASTM D5185m	>20	8	4	6
Lead	ppm	ASTM D5185m	>30	28	23	26
Copper	ppm	ASTM D5185m	>65	19	15	18
Tin	ppm	ASTM D5185m	>4	0	2	0
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.

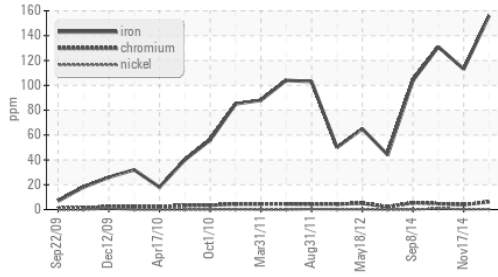
Silicon	ppm	ASTM D5185m	>25	11	7	12
Potassium	ppm	ASTM D5185m	>20	<1	2	5
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	2.6	2.5	0.4
Nitration	Abs/cm	*ASTM D7624		10.	8.	3.
Sulfation	Abs/.1mm	*ASTM D7415		26.	22.	12.
Silt	scalar	*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

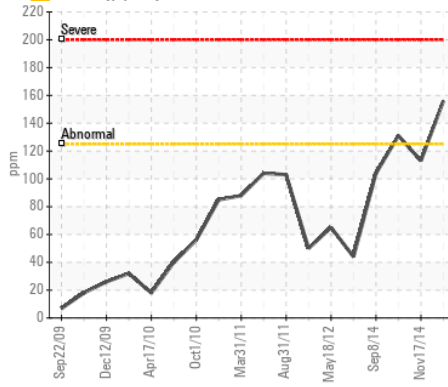
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		5	4	5
Boron	ppm	ASTM D5185m	151	102	106	69
Barium	ppm	ASTM D5185m	0.4	0	0	0
Molybdenum	ppm	ASTM D5185m	250	94	81	78
Manganese	ppm	ASTM D5185m		1	1	1
Magnesium	ppm	ASTM D5185m	0	400	392	392
Calcium	ppm	ASTM D5185m	2046	1813	1800	1810
Phosphorus	ppm	ASTM D5185m	1043	1088	1105	1035
Zinc	ppm	ASTM D5185m	943	1321	1169	1294
Sulfur	ppm	ASTM D5185m	5012	1344	3903	3309
Oxidation	Abs/.1mm	*ASTM D7414		23.	14.	5.
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	6.85	9.09	12.39
Visc @ 100°C	cSt	ASTM D445	14.4	13.76	14.53	14.61

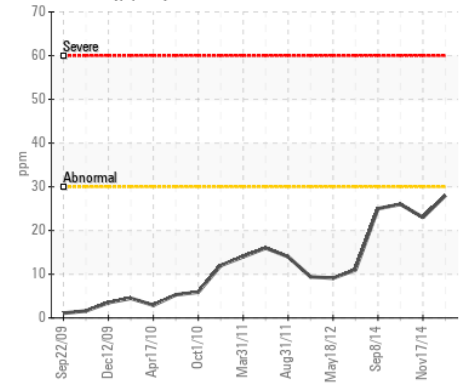
▲ Ferrous Alloys



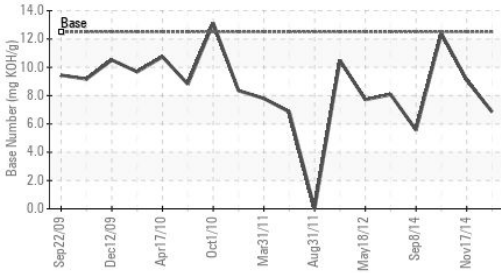
▲ Iron (ppm)



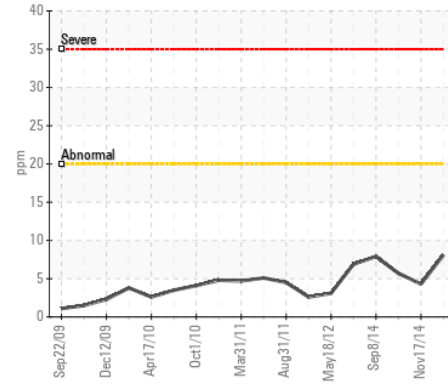
▲ Lead (ppm)



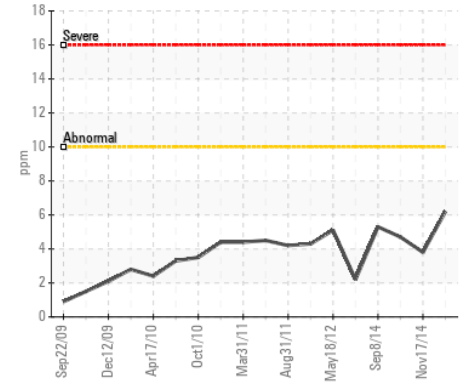
Base Number



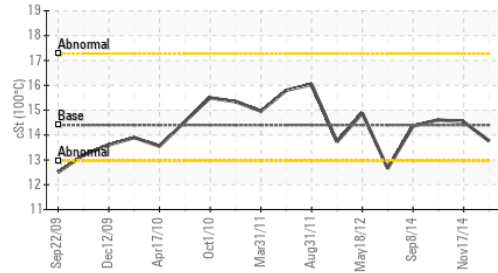
Aluminum (ppm)



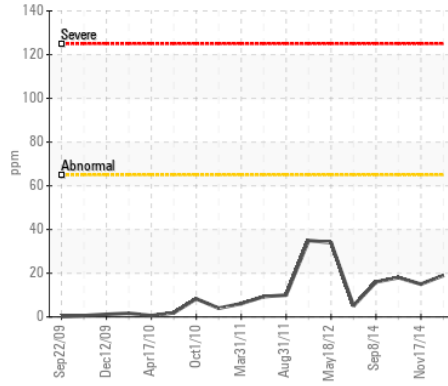
Chromium (ppm)



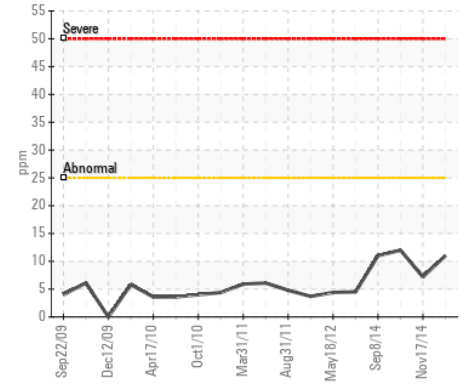
Viscosity @ 100°C



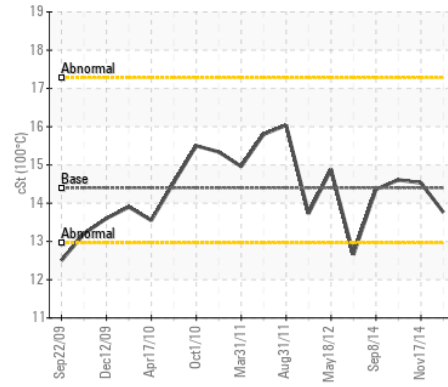
Copper (ppm)



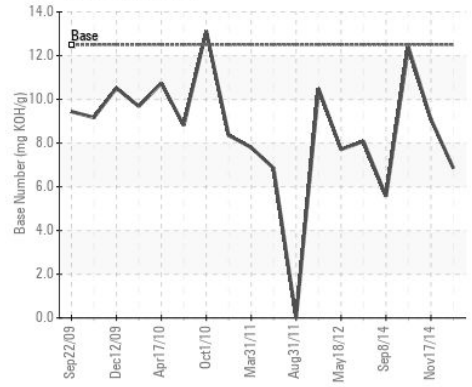
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KLMFA09346 **Received** : 04 Mar 2015
Lab Number : 03694300 **Diagnosed** : 05 Mar 2015
Unique Number : 6927298 **Diagnostician** : Don Baldrige
Test Package : MOB 2 (Additional Tests: 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)