



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**WESTERN STAR 118787**

Component  
**Front Diesel Engine**

Fluid  
**CHEVRON DELO 400 MULTIGRADE 15W40 (11 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>KLMFA07630</b>	KLMFA08635	KLMFA06552
Sample Date		Client Info		<b>03 Jun 2013</b>	15 Apr 2013	25 Feb 2013
Machine Age	mls	Client Info		<b>533981</b>	506006	476096
Oil Age	mls	Client Info		<b>376662</b>	348687	318777
Filter Age	mls	Client Info		<b>57885</b>	29910	318777
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Changed
Sample Status				<b>NORMAL</b>	NORMAL	ATTENTION

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m		<b>160</b>	125	138
Chromium	ppm	ASTM D5185m		<b>4</b>	4	4
Nickel	ppm	ASTM D5185m		<b>1</b>	0	1
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m		<b>5</b>	6	6
Lead	ppm	ASTM D5185m		<b>2</b>	2	2
Copper	ppm	ASTM D5185m		<b>9</b>	7	9
Tin	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

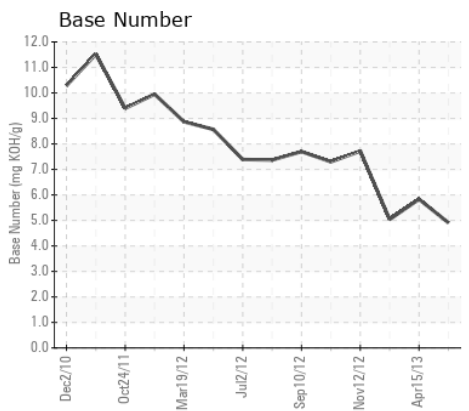
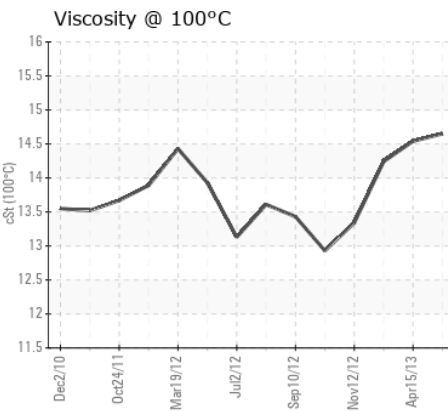
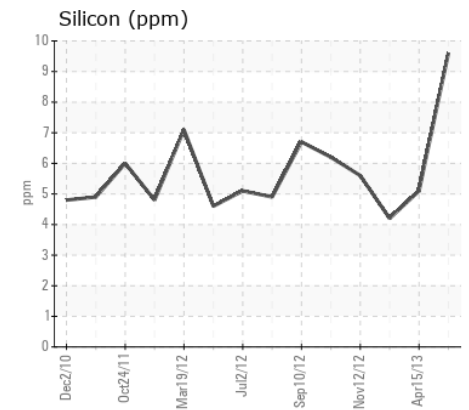
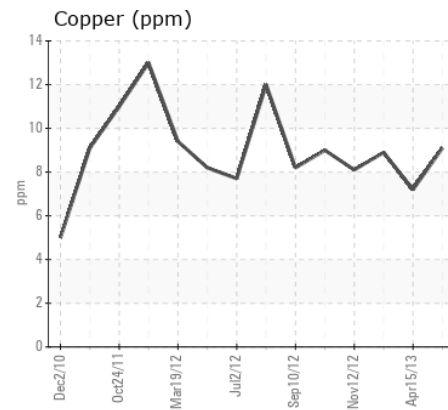
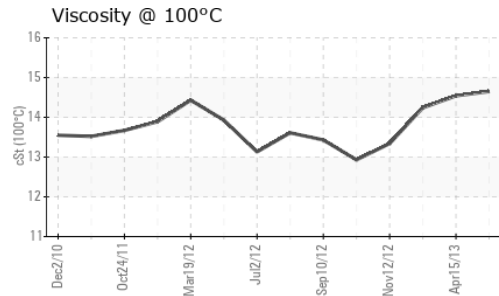
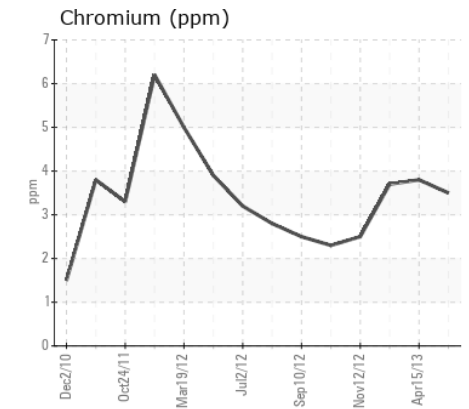
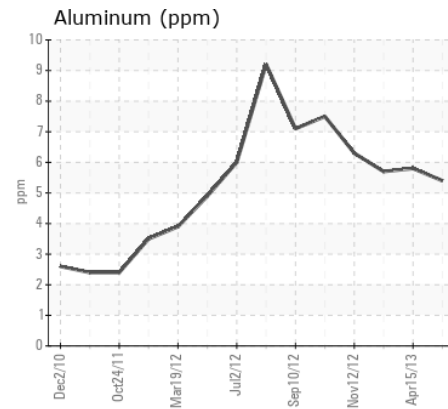
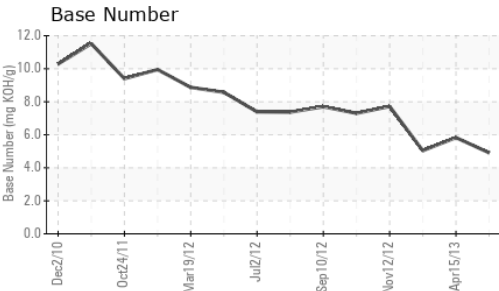
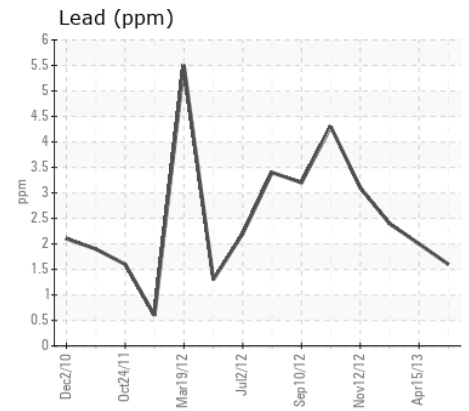
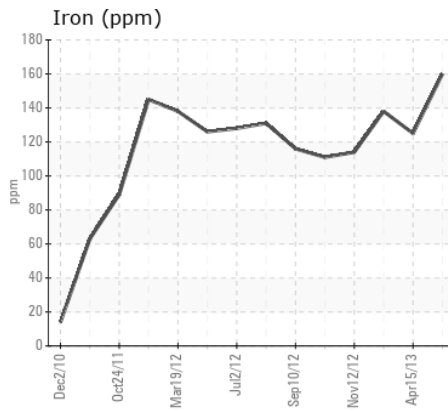
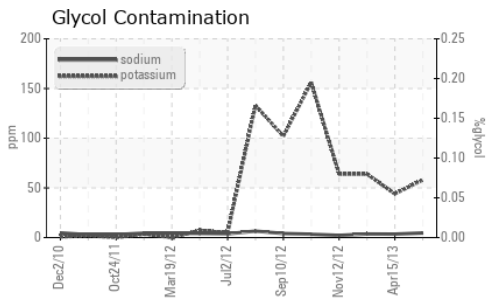
There is no indication of any contamination in the component.

Silicon	ppm	ASTM D5185m		<b>10</b>	5	4
Potassium	ppm	ASTM D5185m		<b>58</b>	44	▲ 64
Fuel		WC Method		<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method		<b>NEG</b>	NEG	NEG
Glycol	%	*ASTM D2982		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.9</b>	0.7	0.8
Nitration	Abs/cm	*ASTM D7624		<b>13.</b>	11.	13.
Sulfation	Abs/.1mm	*ASTM D7415		<b>29.</b>	26.	30.
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual		<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

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

Sodium	ppm	ASTM D5185m		<b>5</b>	4	4
Boron	ppm	ASTM D5185m		<b>102</b>	143	114
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>74</b>	69	55
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	1
Magnesium	ppm	ASTM D5185m		<b>333</b>	305	251
Calcium	ppm	ASTM D5185m		<b>1656</b>	1612	1790
Phosphorus	ppm	ASTM D5185m		<b>992</b>	1029	944
Zinc	ppm	ASTM D5185m		<b>1123</b>	1175	1052
Sulfur	ppm	ASTM D5185m		<b>4210</b>	3506	3013
Oxidation	Abs/.1mm	*ASTM D7414		<b>31.</b>	27.	31.
Base Number (BN)	mg KOH/g	ASTM D2896		<b>4.91</b>	5.83	5.04
Visc @ 100°C	cSt	ASTM D445		<b>14.65</b>	14.54	14.24
Fluid Type		*In-house		<b>*SAE_ENG_DE</b>	SAE_ENG_DE	SAE_ENG_DE



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KLMFA07630 **Received** : 10 Jun 2013  
**Lab Number** : 03300896 **Diagnosed** : 12 Jun 2013  
**Unique Number** : 6288573 **Diagnostician** : Elizabeth Valachovic  
**Test Package** : MOB 2 ( Additional Tests: FluidDetermination, Glycol, PQ )

**EDAN FARMS INC.**  
 13549 WOODWORTH RD.  
 NEW SPRINGFIELD, OH  
 US 44443  
 Contact: ERIC SCHAEFER  
 leslie.edan@zoominternet.net  
 T: (330)549-5567  
 F: (330)549-0255

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)