



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
WESTERN STAR 118787

Component
Front Diesel Engine

Fluid
SAE 15W40 (11 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KLMFA13436	KLMFA07629	KLMFA06601
Sample Date		Client Info		21 Oct 2013	26 Aug 2013	15 Jul 2013
Machine Age	mls	Client Info		624567	591715	563041
Oil Age	mls	Client Info		467248	434396	405722
Filter Age	mls	Client Info		148471	115619	86945
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal for time on oil.

Iron	ppm	ASTM D5185m	>100	183	174	176
Chromium	ppm	ASTM D5185m	>6	3	4	4
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m		0	<1	<1
Aluminum	ppm	ASTM D5185m	>30	6	6	7
Lead	ppm	ASTM D5185m	>10	3	2	3
Copper	ppm	ASTM D5185m	>150	11	9	11
Tin	ppm	ASTM D5185m	>4	1	0	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

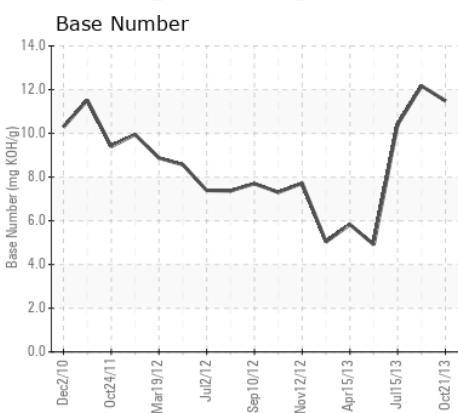
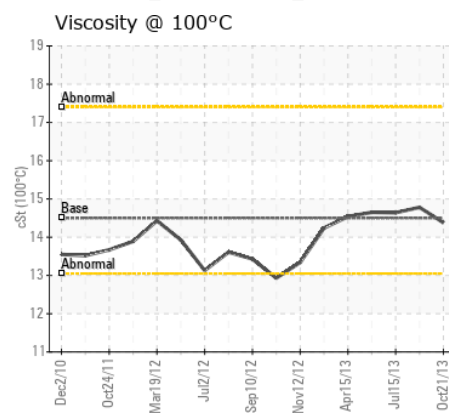
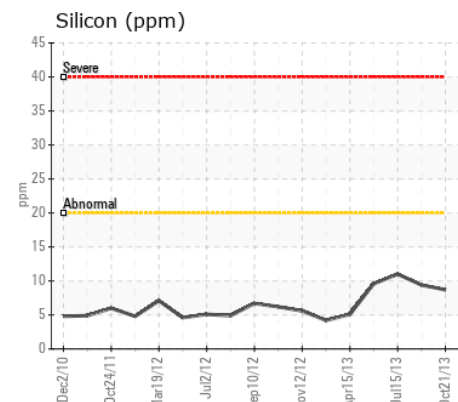
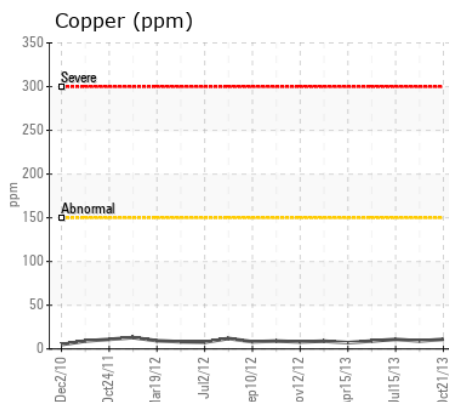
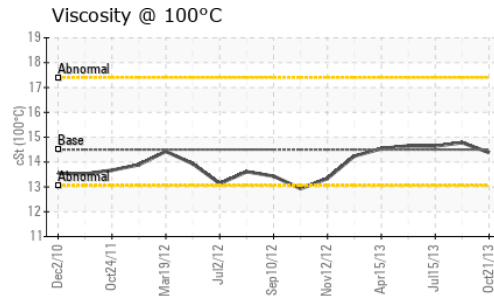
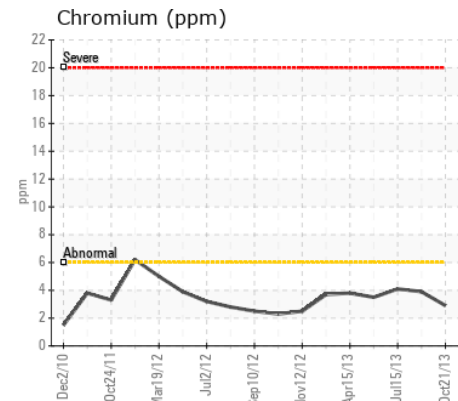
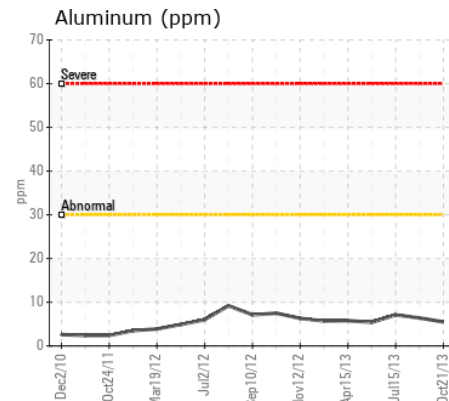
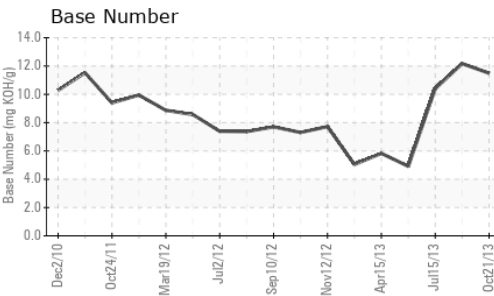
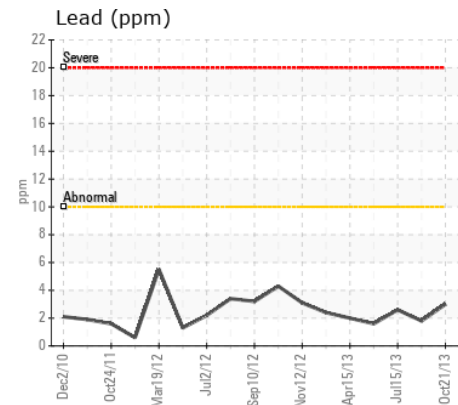
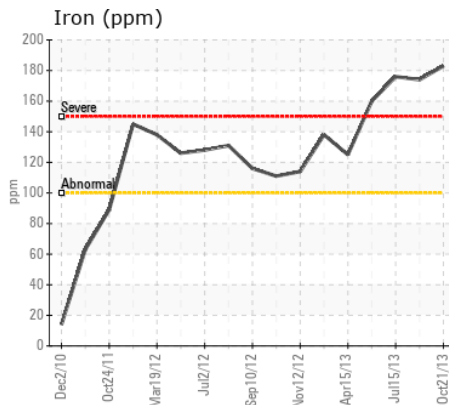
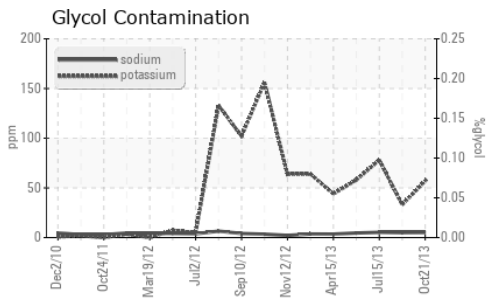
There is no indication of any contamination in the component.

Silicon	ppm	ASTM D5185m	>20	9	9	11
Potassium	ppm	ASTM D5185m	>20	57	33	▲ 78
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.1	0.3
Nitration	Abs/cm	*ASTM D7624		5.	4.	6.
Sulfation	Abs/.1mm	*ASTM D7415		14.	14.	17.
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	>0.1	NEG	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		5	5	5
Boron	ppm	ASTM D5185m		92	110	93
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		80	82	78
Manganese	ppm	ASTM D5185m		2	1	1
Magnesium	ppm	ASTM D5185m		353	351	339
Calcium	ppm	ASTM D5185m		1635	1670	1642
Phosphorus	ppm	ASTM D5185m		983	984	976
Zinc	ppm	ASTM D5185m		1174	1222	1215
Sulfur	ppm	ASTM D5185m		1595	3837	3467
Oxidation	Abs/.1mm	*ASTM D7414		9.	8.	12.
Base Number (BN)	mg KOH/g	ASTM D2896		11.49	12.17	10.4
Visc @ 100°C	cSt	ASTM D445	14.5	14.38	14.78	14.64



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KLMFA13436 **Received** : 29 Oct 2013
Lab Number : 03386271 **Diagnosed** : 30 Oct 2013
Unique Number : 6429043 **Diagnostician** : Don Baldrige
Test Package : MOB 2 (Additional Tests: Glycol, 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)