TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CASE IH 6088
Component
Diesel Engine
Fluid
TRC MOLY XL PRO-SPEC IV 15W40 (22 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

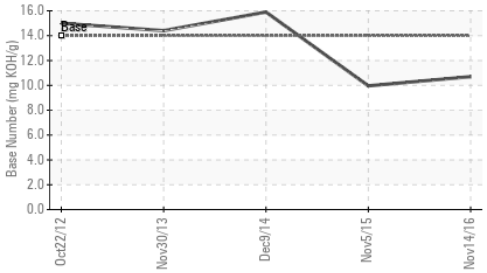
There is no indication of any contamination in the component.

FLUID CONDITION

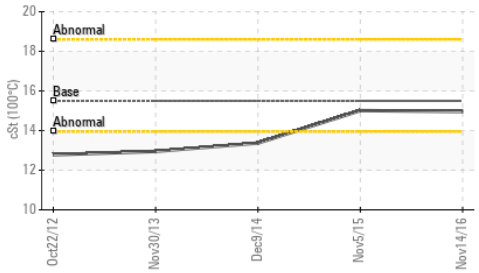
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR04139949	TR03895197	TR03642198
Sample Date		Client Info		14 Nov 2016	05 Nov 2015	09 Dec 2014
Machine Age	hrs	Client Info		1001	836	668
Oil Age	hrs	Client Info		165	168	174
Filter Age	hrs	Client Info		165	168	174
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	29	31	28
Chromium	ppm	ASTM D5185m	>20	<1	1	1
Nickel	ppm	ASTM D5185m	>2	<1	2	2
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	2	2	4
Lead	ppm	ASTM D5185m	>40	<1	4	2
Copper	ppm	ASTM D5185m	>330	37	8	2
Tin	ppm	ASTM D5185m	>15	11	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	3	6	9
Potassium	ppm	ASTM D5185m	>20	2	3	0
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.3	0.3
Nitration	Abs/cm	*ASTM D7624		8.	5.	7.
Sulfation	Abs/.1mm	*ASTM D7415		18.	11.	19.
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
Sodium	ppm	ASTM D5185m		7	3	3
Boron	ppm	ASTM D5185m		2	10	190
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		190	193	163
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		910	1025	456
Calcium	ppm	ASTM D5185m	1300	1401	1640	4526
Phosphorus	ppm	ASTM D5185m		1053	1116	903
Zinc	ppm	ASTM D5185m	1300	1327	1336	1073
Sulfur	ppm	ASTM D5185m		3725	3681	3513
Oxidation	Abs/.1mm	*ASTM D7414		14.	9.	11.
Base Number (BN)	mg KOH/g	ASTM D2896	14	10.7	9.96	15.9
Visc @ 100°C	cSt	ASTM D445	15.5	14.96	15.01	13.37

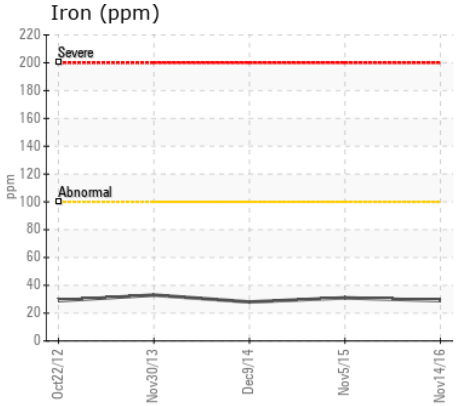
Base Number



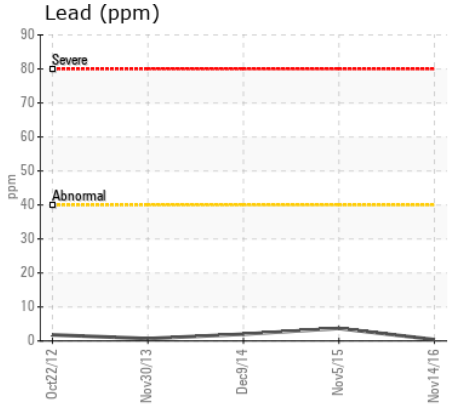
Viscosity @ 100°C



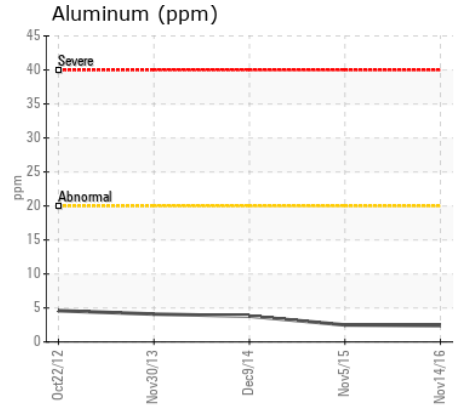
Iron (ppm)



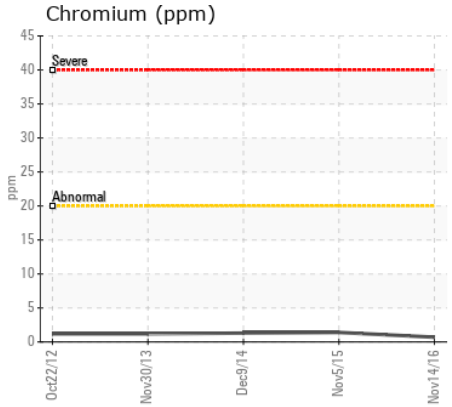
Lead (ppm)



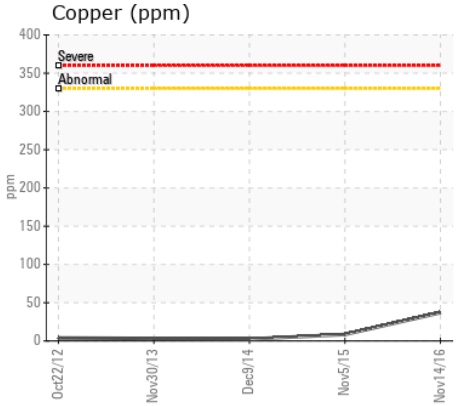
Aluminum (ppm)



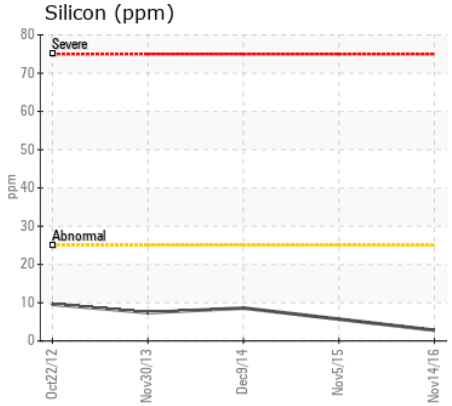
Chromium (ppm)



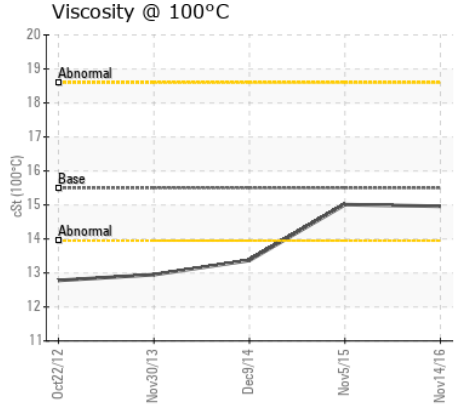
Copper (ppm)



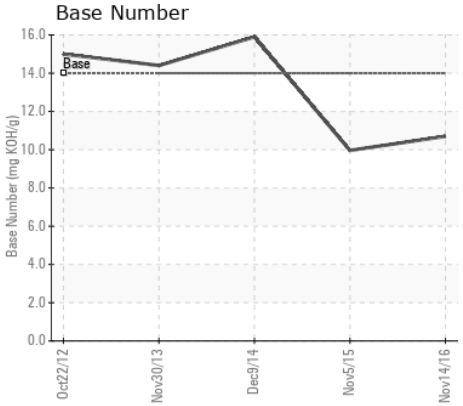
Silicon (ppm)



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR04139949
Lab Number : 04139949
Unique Number : 7663335
Test Package : MOB 2

Received : 11 Jan 2017
Tested : 12 Jan 2017
Diagnosed : 12 Jan 2017 - Wes Davis

Certificate L2367

To discuss this sample report, contact Customer Service at 1-800-827-0711.
** - 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)

PHIL HARDER
57803 350TH STREET
MOUNTAIN LAKE, MN
US 56159
Contact: PHILIP HARDER
philbren@frontiernet.net
T: 5(07)227-6074
F: