



TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CASE IH 275
Component
Diesel Engine
Fluid
TRC MOLY XL PRO-SPEC IV 15W40 (22 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR04139947	TR03895194	TR03642196
Sample Date		Client Info		16 Nov 2016	10 Nov 2015	12 Nov 2014
Machine Age	hrs	Client Info		1870	1644	1396
Oil Age	hrs	Client Info		226	248	261
Filter Age	hrs	Client Info		226	248	261
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ATTENTION	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	16	8	17
Chromium	ppm	ASTM D5185m	>20	<1	<1	2
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	3	3	3
Lead	ppm	ASTM D5185m	>40	3	<1	4
Copper	ppm	ASTM D5185m	>330	8	35	3
Tin	ppm	ASTM D5185m	>15	10	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

CONTAMINATION

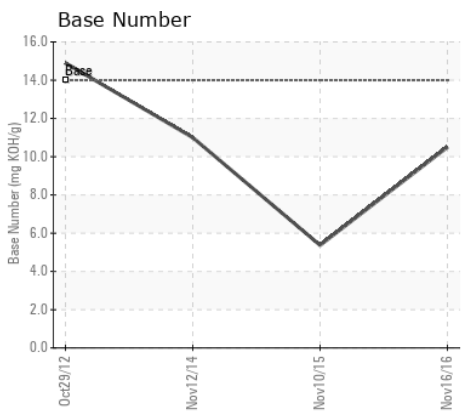
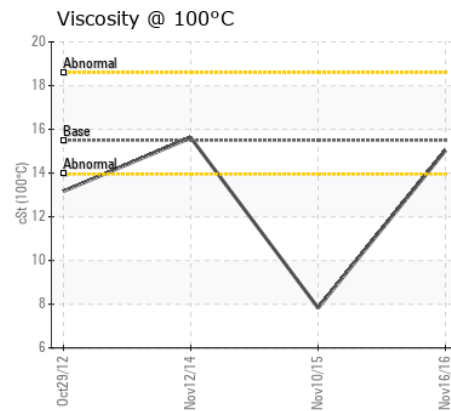
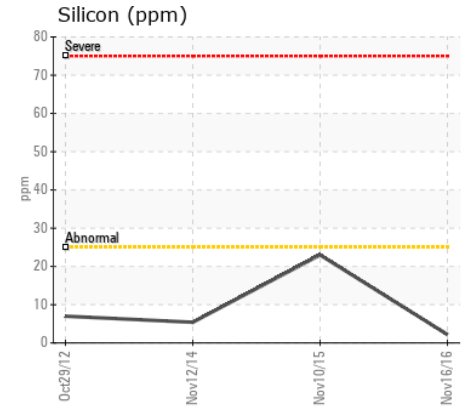
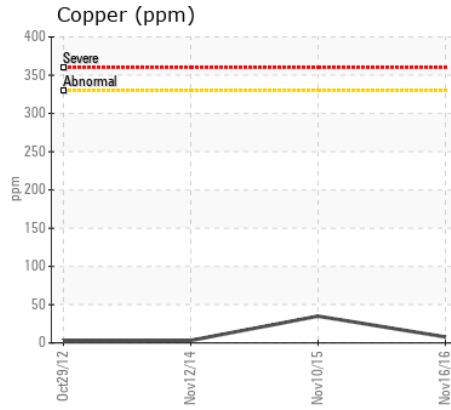
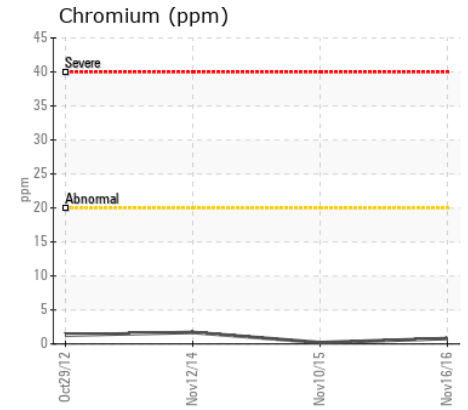
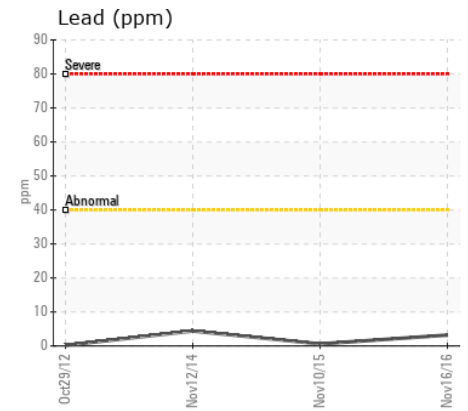
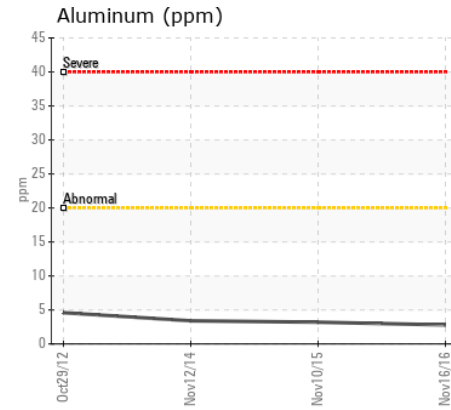
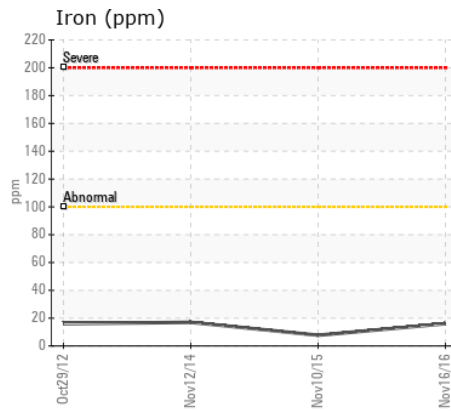
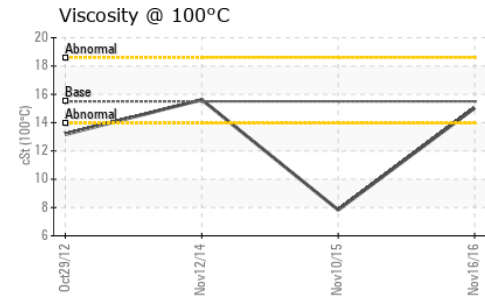
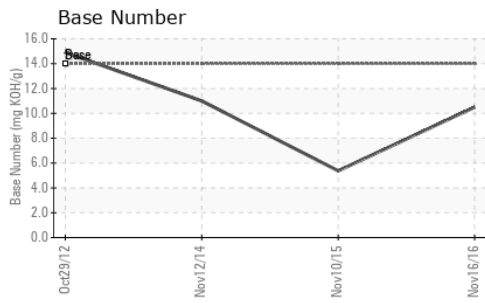
There is no indication of any contamination in the component.

Silicon	ppm	ASTM D5185m	>25	2	23	5
Potassium	ppm	ASTM D5185m	>20	2	0	2
Fuel		WC Method	>5	<1.0	▲ 4.5	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.1	0	0.1
Nitration	Abs/cm	*ASTM D7624		9.	7.	8.
Sulfation	Abs/.1mm	*ASTM D7415		19.	14.	18.
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	5	4
Boron	ppm	ASTM D5185m		1	▲ 41	14
Barium	ppm	ASTM D5185m		0	1	0
Molybdenum	ppm	ASTM D5185m		195	125	189
Manganese	ppm	ASTM D5185m		<1	9	<1
Magnesium	ppm	ASTM D5185m		889	▲ 14	983
Calcium	ppm	ASTM D5185m	1300	1824	▲ 1881	1736
Phosphorus	ppm	ASTM D5185m		1058	▲ 596	1248
Zinc	ppm	ASTM D5185m	1300	1339	▲ 702	1480
Sulfur	ppm	ASTM D5185m		3755	▲ 1749	3775
Oxidation	Abs/.1mm	*ASTM D7414		15.	12.	14.
Base Number (BN)	mg KOH/g	ASTM D2896	14	10.5	5.37	11.0
Visc @ 100°C	cSt	ASTM D445	15.5	15.03	▲ 7.83	15.62



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : TR04139947

Lab Number : 04139947

Unique Number : 7663333

Test Package : MOB 2

Received : 11 Jan 2017

Tested : 12 Jan 2017

Diagnosed : 12 Jan 2017 - Wes Davis

PHIL HARDER

57803 350TH STREET

MOUNTAIN LAKE, MN

US 56159

Contact: PHILIP HARDER

philbren@frontiernet.net

T: 5(07) 227-6074

F:

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)