TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

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

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal.

CONTAMINATION

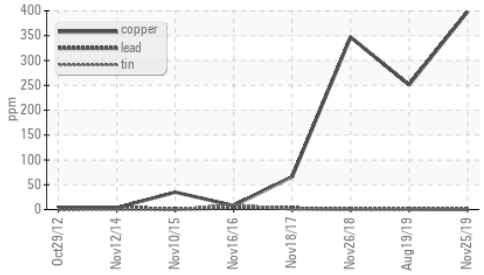
There is no indication of any contamination in the oil.

FLUID CONDITION

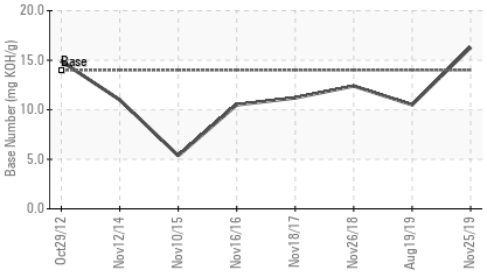
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR04871523	TR04784214	TR04607581
Sample Date		Client Info		25 Nov 2019	19 Aug 2019	26 Nov 2018
Machine Age	hrs	Client Info		2552	2507	2330
Oil Age	hrs	Client Info		222	177	213
Filter Age	hrs	Client Info		222	177	213
Oil Changed		Client Info		Changed	Not Changd	Changed
Filter Changed		Client Info		Changed	Not Changd	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>100	20	16	15
Chromium	ppm	ASTM D5185m	>20	<1	1	1
Nickel	ppm	ASTM D5185m	>4	<1	<1	<1
Titanium	ppm	ASTM D5185m	>3	0	<1	0
Silver	ppm	ASTM D5185m	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	3	5	3
Lead	ppm	ASTM D5185m	>40	0	1	<1
Copper	ppm	ASTM D5185m	>330	▲ 398	251	▲ 347
Tin	ppm	ASTM D5185m	>15	0	0	<1
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	5	2
Potassium	ppm	ASTM D5185m	>20	1	0	<1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	14.8	14.7	15
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.7	21	23.6
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		6	7	5
Boron	ppm	ASTM D5185m		3	1	2
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		189	186	151
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		942	999	894
Calcium	ppm	ASTM D5185m	1300	1847	1855	1725
Phosphorus	ppm	ASTM D5185m		1092	1116	1054
Zinc	ppm	ASTM D5185m	1300	1365	1436	1204
Sulfur	ppm	ASTM D5185m		3364	3439	3944
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.4	17.9	21.1
Base Number (BN)	mg KOH/g	ASTM D2896	14	16.3	10.5	12.4
Visc @ 100°C	cSt	ASTM D445	15.5	15.8	15.8	15.65

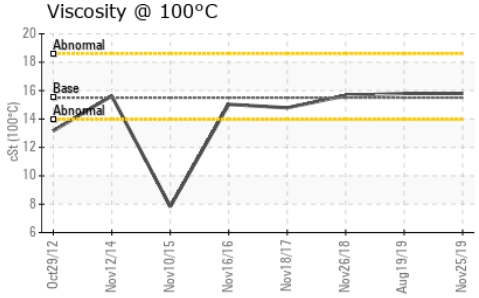
Non-ferrous Metals



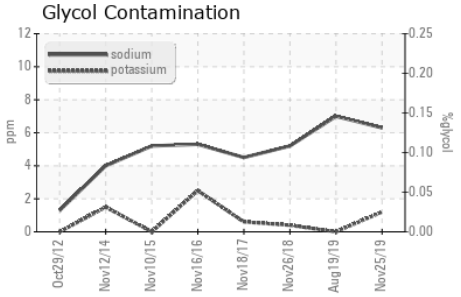
Base Number



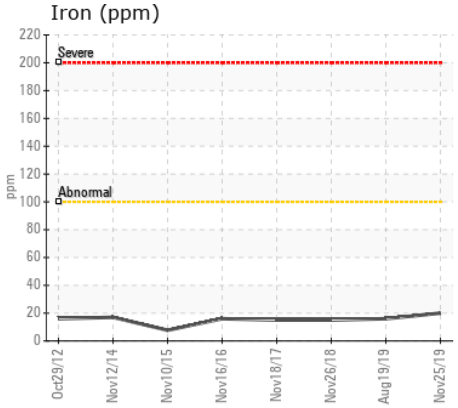
Viscosity @ 100°C



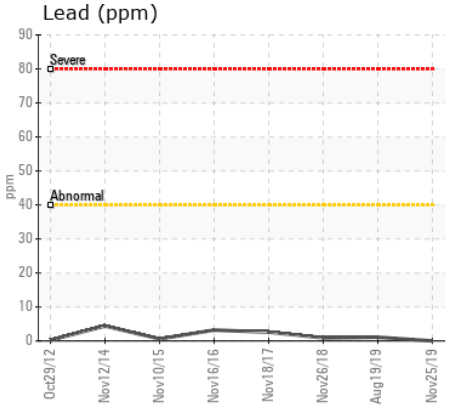
Glycol Contamination



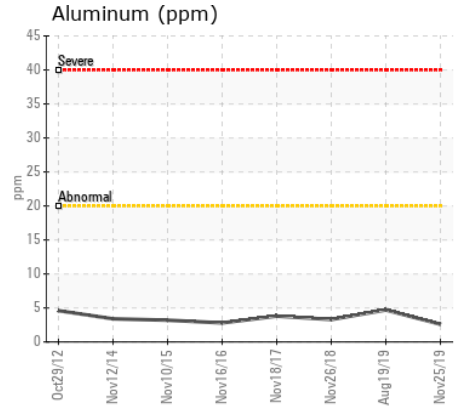
Iron (ppm)



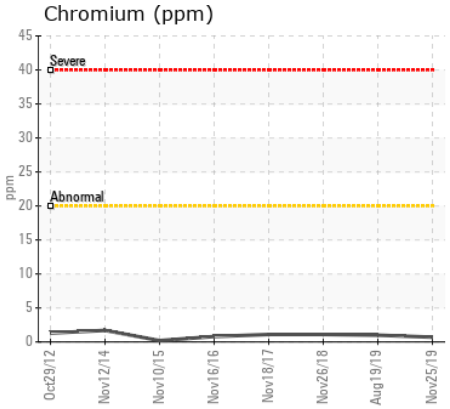
Lead (ppm)



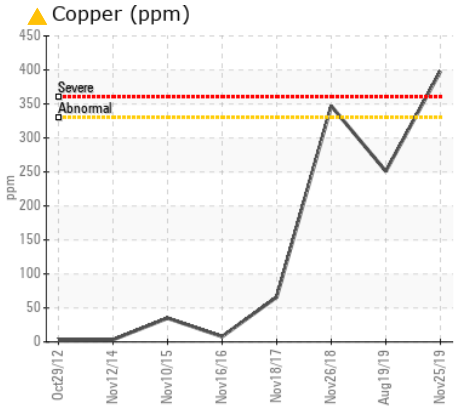
Aluminum (ppm)



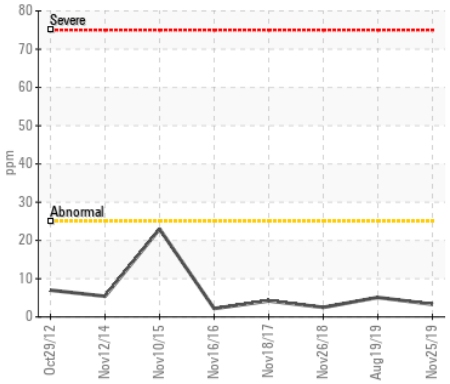
Chromium (ppm)



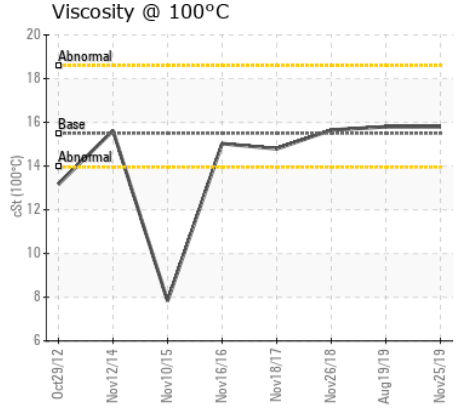
Copper (ppm)



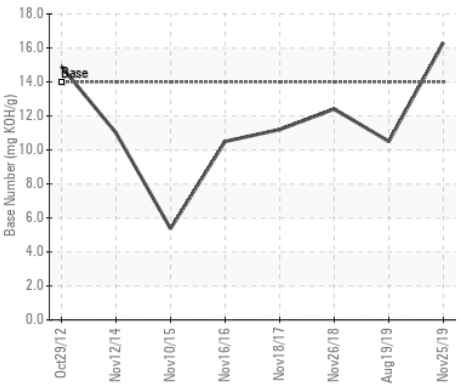
Silicon (ppm)



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR04871523
Lab Number : 04871523
Unique Number : 8856519
Test Package : MOB 2 (Additional Tests: Glycol)

Received : 19 Dec 2019
Tested : 20 Dec 2019
Diagnosed : 20 Dec 2019 - Don Baldridge

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)

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