TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	MARGINAL

Machine Id
DEUTZ FAHR 68
Component
Diesel Engine
Fluid
TRC MOLY XL PRO-SPEC IV 15W40 (10 QTS)

RECOMMENDATION

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

WEAR

All component wear rates are normal.

CONTAMINATION

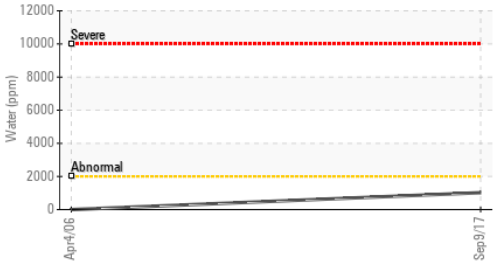
There is a trace of moisture present in the oil.

FLUID CONDITION

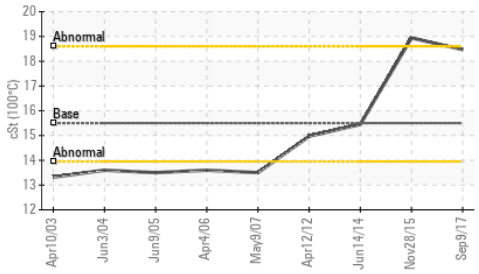
The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR04374735	TR03895195	TR03541705
Sample Date		Client Info		09 Sep 2017	28 Nov 2015	14 Jun 2014
Machine Age	hrs	Client Info		6088	5798	5562
Oil Age	hrs	Client Info		290	236	177
Filter Age	hrs	Client Info		290	236	177
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				MARGINAL	MARGINAL	NORMAL
Iron	ppm	ASTM D5185m	>100	14	15	16
Chromium	ppm	ASTM D5185m	>20	3	2	3
Nickel	ppm	ASTM D5185m	>2	0	1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	6	5	9
Lead	ppm	ASTM D5185m	>40	2	4	<1
Copper	ppm	ASTM D5185m	>330	9	4	2
Tin	ppm	ASTM D5185m	>15	0	0	2
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	5	6	8
Potassium	ppm	ASTM D5185m	>20	5	4	2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water	%	ASTM D6304	>0.2	▲ 0.102	---	---
ppm Water	ppm	ASTM D6304	>2000	▲ 1020	---	---
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0	0	0
Nitration	Abs/cm	*ASTM D7624	>25	12.	7.	9.
Sulfation	Abs/.1mm	*ASTM D7415	>35	22.	13.	21.
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		5	5	4
Boron	ppm	ASTM D5185m		4	22	206
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		189	225	203
Manganese	ppm	ASTM D5185m		<1	<1	3
Magnesium	ppm	ASTM D5185m		936	1197	541
Calcium	ppm	ASTM D5185m	1300	1854	2108	5116
Phosphorus	ppm	ASTM D5185m		1025	1099	917
Zinc	ppm	ASTM D5185m	1300	1304	1418	1094
Sulfur	ppm	ASTM D5185m		3221	3628	810
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.	14.	15.
Base Number (BN)	mg KOH/g	ASTM D2896	14	12.8	12.0	14.4
Visc @ 100°C	cSt	ASTM D445	15.5	▲ 18.47	▲ 18.94	15.45

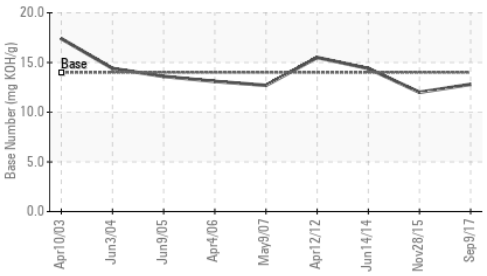
Water (KF)



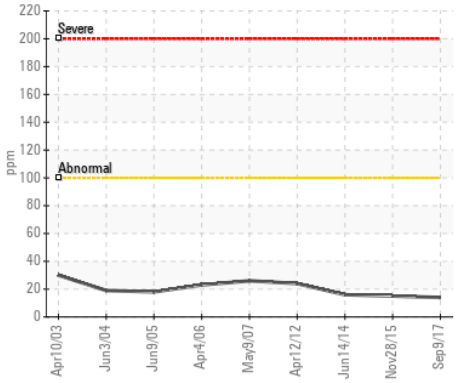
Viscosity @ 100°C



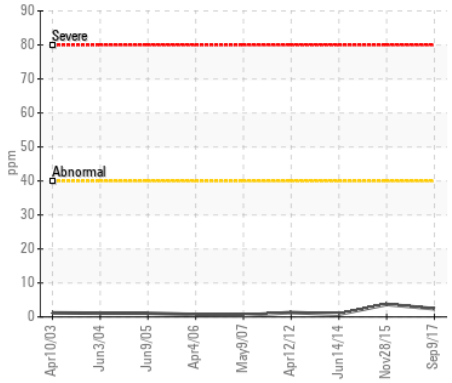
Base Number



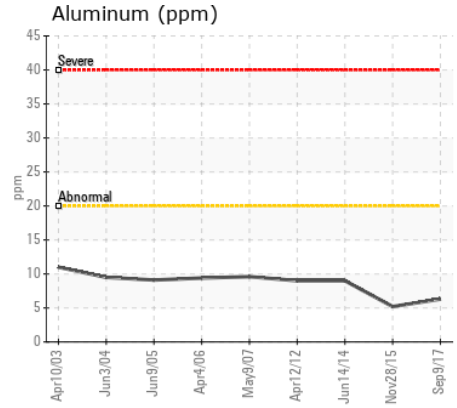
Iron (ppm)



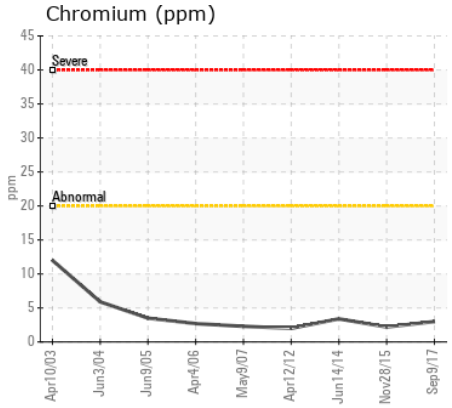
Lead (ppm)



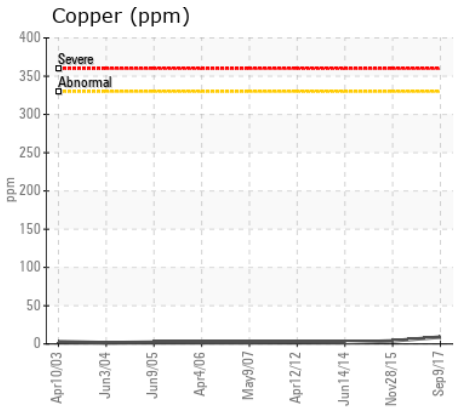
Aluminum (ppm)



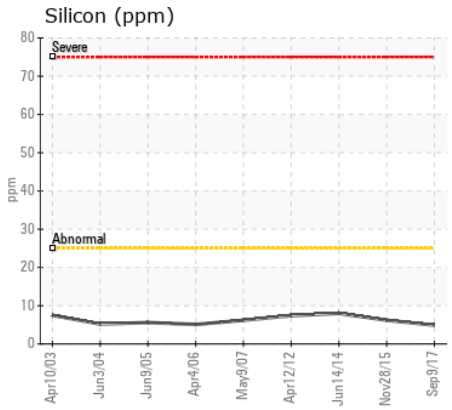
Chromium (ppm)



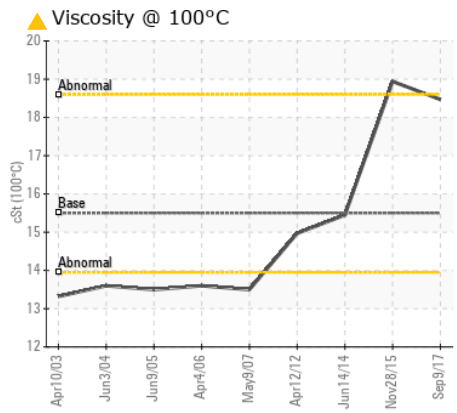
Copper (ppm)



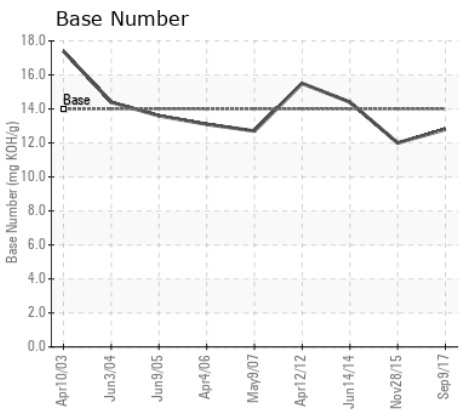
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR04374735 **Received** : 26 Dec 2017
Lab Number : 04374735 **Tested** : 28 Dec 2017
Unique Number : 8043374 **Diagnosed** : 28 Dec 2017 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: KF)

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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