



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Machine Id
INTERNATIONAL 7503

Component
Diesel Engine

Fluid
SHELL ROTELLA T 15W40 (18 QTS)

RECOMMENDATION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0589779	WC0444700	WCMFC21146
Sample Date		Client Info		30 Nov 2021	24 Mar 2020	04 Aug 2018
Machine Age	mls	Client Info		361863	296307	241420
Oil Age	mls	Client Info		10500	44958	12000
Filter Age	mls	Client Info		10500	44958	12000
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ATTENTION	SEVERE	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	25	89	84
Chromium	ppm	ASTM D5185m	>20	1	4	4
Nickel	ppm	ASTM D5185m	>2	<1	1	<1
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	17	15
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	<1	3	3
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Fuel content negligible. There is no indication of any contamination in the oil.

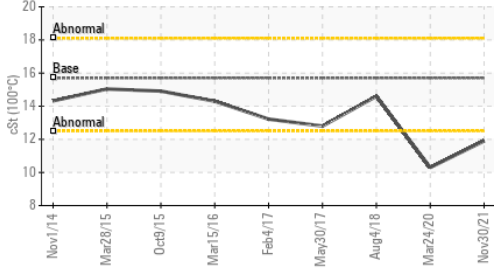
Silicon	ppm	ASTM D5185m	>25	5	13	12
Potassium	ppm	ASTM D5185m	>20	8	12	6
Fuel	%	ASTM D3524	>3.0	1.2	10.4	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	1	1.8	1.8
Nitration	Abs/cm	*ASTM D7624	>20	9.2	13.8	15.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.2	31	33.3
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

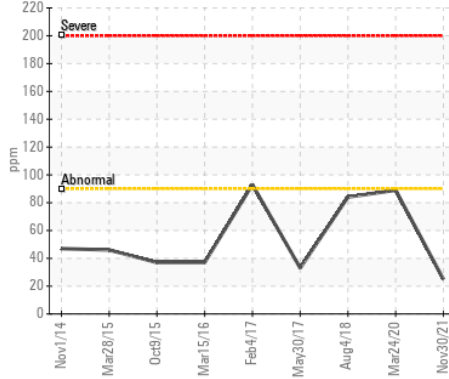
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		2	6	3
Boron	ppm	ASTM D5185m	316	65	21	26
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	1.2	6	7	56
Manganese	ppm	ASTM D5185m		<1	2	1
Magnesium	ppm	ASTM D5185m	24	763	555	351
Calcium	ppm	ASTM D5185m	2292	1475	1433	1890
Phosphorus	ppm	ASTM D5185m	1064	773	724	950
Zinc	ppm	ASTM D5185m	1160	891	782	1213
Sulfur	ppm	ASTM D5185m	4996	2880	1821	2619
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.9	28.5	33.6
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	8.6	5.1	6
Visc @ 100°C	cSt	ASTM D445	15.7	▲ 11.9	▲ 10.3	14.6

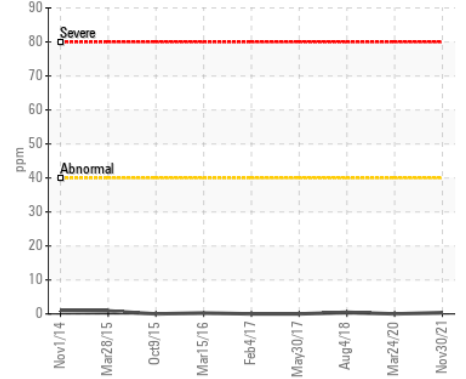
▲ Viscosity @ 100°C



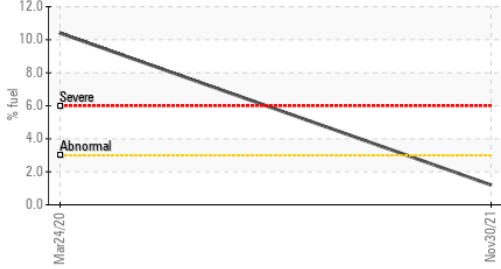
Iron (ppm)



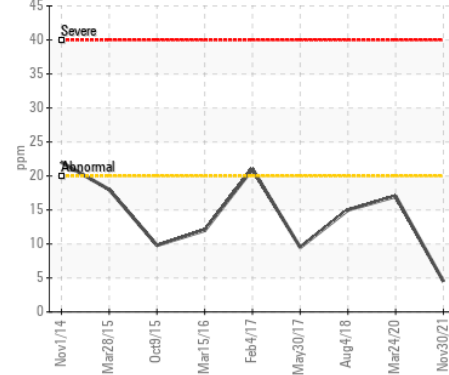
Lead (ppm)



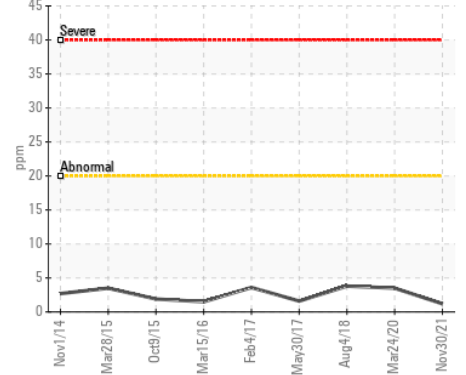
Fuel Dilution



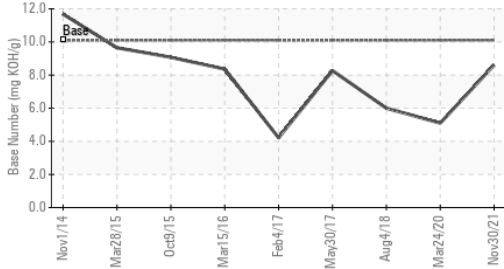
Aluminum (ppm)



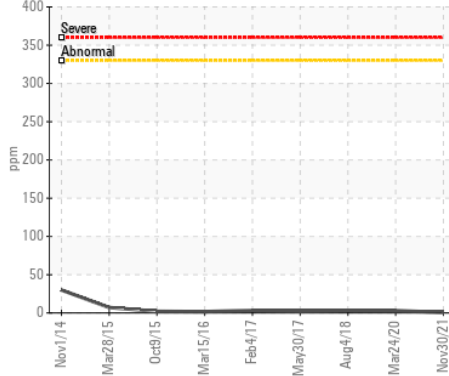
Chromium (ppm)



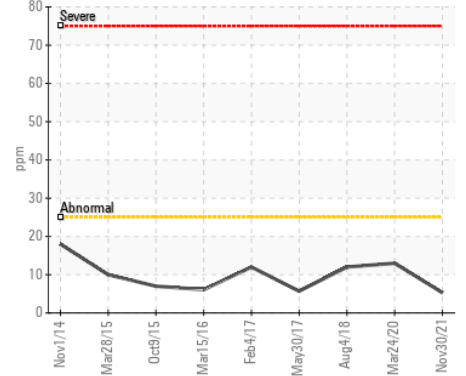
Base Number



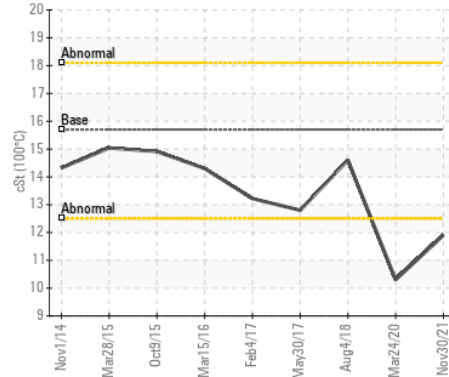
Copper (ppm)



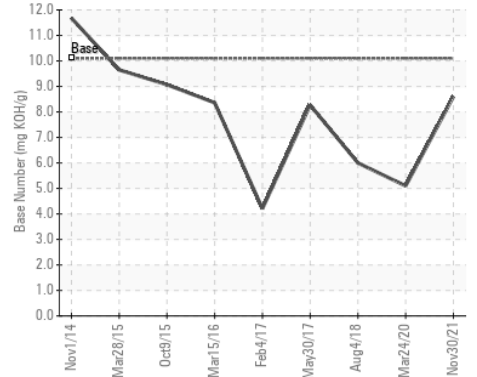
Silicon (ppm)



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0589779 **Received** : 09 Dec 2021
Lab Number : 05418818 **Diagnosed** : 13 Dec 2021
Unique Number : 9773009 **Diagnostician** : Jonathan Hester
Test Package : MOB1+ (Additional Tests: PercentFuel)

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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)