

Machine Id INTERNATIONAL 108680 Component Diesel Engine Fluid SHELL ROTELLA T 15W40 (--- QTS)

SHELL ROTELLA I 15W40 (QTS)							
RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
	Sample Number		Client Info		IL0032954	IL0027460	IL0027421
Resample at the next service interval to monitor.	Sample Date		Client Info		02 Feb 2024	04 Aug 2023	24 Feb 2023
	Machine Age	mls	Client Info		389489	353716	318987
	Oil Age	mls	Client Info		35773	34729	32336
	Filter Age	mls	Client Info		35773	34729	32336
	Oil Changed		Client Info		Changed	Changed	Changed
	Filter Changed		Client Info		Changed	Changed	Changed
	Sample Status				NORMAL	NORMAL	NORMAL
WEAR	Iron	ppm	ASTM D5185m	>90	31	46	29
	Chromium	ppm	ASTM D5185m		1	1	<1
All component wear rates are normal.	Nickel	ppm	ASTM D5185m		0	0	0
	Titanium	ppm	ASTM D5185m		<1	0	0
	Silver	ppm	ASTM D5185m		0	<1	0
	Aluminum	ppm	ASTM D5185m		4	5	7
	Lead	ppm	ASTM D5185m		2	3	4
	Copper	ppm	ASTM D5185m		2	1	<1
	Tin	ppm	ASTM D5185m	>15	0	<1	<1
	Vanadium	ppm	ASTM D5185m		0	0	0
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
CONTAMINATION	Silicon	ppm	ASTM D5185m		6	6	5
There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185m		11	12	8
	Fuel		WC Method		<1.0	<1.0	<1.0
	Water		WC Method	>0.2	NEG	NEG	NEG
	Glycol	0/	WC Method	0	NEG	NEG	NEG
	Soot %	%	*ASTM D7844		0.9	0.6	0.6
	Nitration	Abs/cm	*ASTM D7624	>20	11.2	10.4	11.4
	Sulfation	Abs/.1mm			26.2	25.1	24.2
	Silt Debris	scalar	*Visual	NONE	NONE	NONE	NONE
	Sand/Dirt	scalar	*Visual *Visual	NONE NONE	NONE NONE	NONE NONE	NONE
	Appearance	scalar scalar	*Visual	NORML	NORML	NORML	NORML
	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water		*Visual	>0.2	NEG	NEG	NEG
		ooalai	, iodui	- U.L			
FLUID CONDITION	Sodium	ppm	ASTM D5185m		<1	<1	1
The PN result indicates that there is suitable alkelinity remaining in the	Boron	ppm	ASTM D5185m	316	36	46	24
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.	Barium	ppm	ASTM D5185m		0	0	0
	Molybdenum	ppm	ASTM D5185m	1.2	32	28	83
	Manganese	ppm	ASTM D5185m		0	<1	<1
	Magnesium	ppm	ASTM D5185m		289	145	43
	Calcium	ppm	ASTM D5185m		1880	2160	2314
	Phosphorus	ppm	ASTM D5185m		957	989	943
	Zinc	ppm	ASTM D5185m		1238	1234	1240
	Sulfur	ppm	ASTM D5185m	4996	3046	3467	3895
	Ovidation	Abo/ 1mm	*ACTM D7444	. OF	22.0	20.7	107

20.7

5.1

14.1

22.0

5.5

14.1

Abs/.1mm *ASTM D7414 >25

ASTM D445 15.7

Base Number (BN) mg KOH/g ASTM D2896 10.1

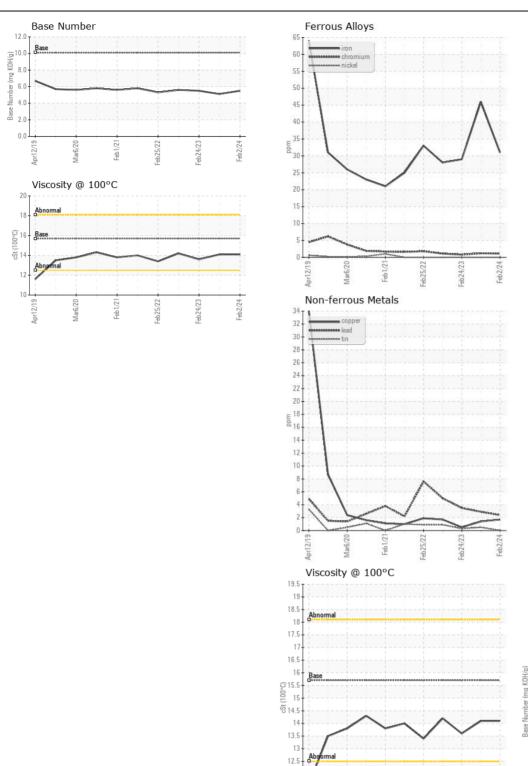
Oxidation

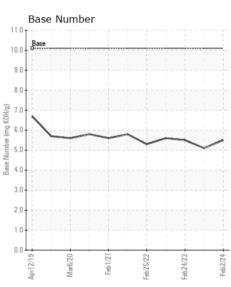
Visc @ 100°C cSt

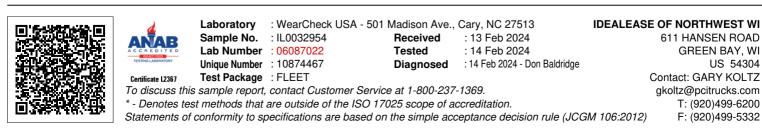
18.7

5.5

13.6







Feb1/21.

Feb25/22.

Feb24/23 -

Feb2/24.

Mar6/20 -

11.5

10.5

Apr12/19

Contact/Location: GARY KOLTZ - IDEGREWI

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