

## **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine I **INTERNATIONAL 623979** Component

### **Diesel Engine** SHELL ROTELLA T 10W30 (--- QTS)

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

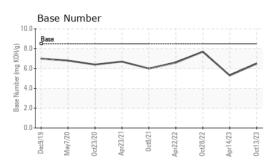
### Fluid Condition

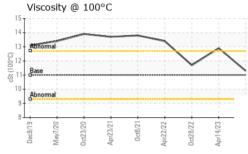
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		Dec2019 Ma	y2020 Oct2020 Apr2021	Oct2021 Apr2022 Oct2022 Apr20	123 Oct2023	
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		IL0032758	IL0027574	IL0027721
Sample Date		Client Info		13 Oct 2023	14 Apr 2023	28 Oct 2022
Machine Age	mls	Client Info		167910	150594	133762
Oil Age	mls	Client Info		17316	16832	15433
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	1	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	nnm	ASTM D5185m	>90	14	13	14
Chromium	ppm ppm	ASTM D5185m		<1	<1	<1
Nickel	ppm	ASTM D5185m		< 1 0	0	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m		3	4	6
Lead	ppm	ASTM D5185m		0	0	<1
Copper	ppm	ASTM D5185m		<1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	269	77	48	119
Barium	ppm	ASTM D5185m		20	0	0
Molybdenum	ppm	ASTM D5185m	0	41	80	11
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	20	211	32	31
Calcium	ppm	ASTM D5185m	1521	1757	2085	2158
Phosphorus	ppm	ASTM D5185m	948	942	977	930
Zinc	ppm	ASTM D5185m	893	1105	1158	1158
Sulfur	ppm	ASTM D5185m		4168	3391	3850
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	5	5	6
Sodium	ppm	ASTM D5185m		4	2	2
Potassium	ppm	ASTM D5185m	>20	7	7	12
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	0.5	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	8.9	9.3	10.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.5	17.9	23.2
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.6	14.3	18.5
						7.7



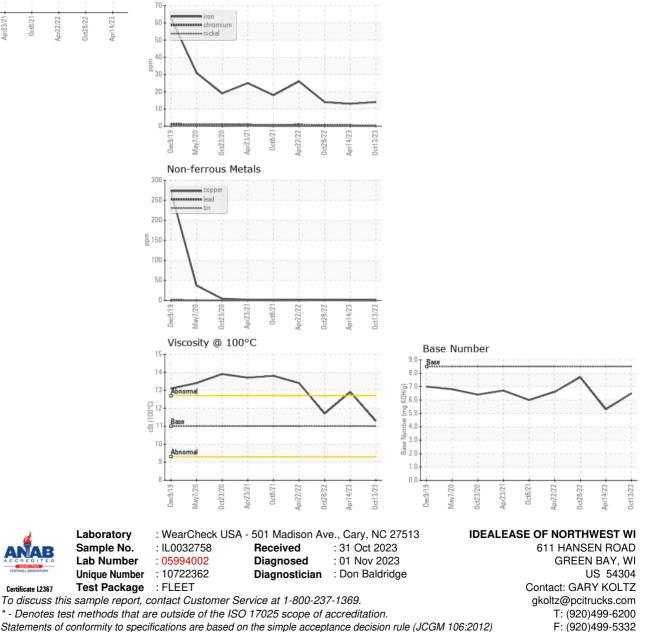
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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	ΓIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	11.0	11.3	12.9	11.7
GRAPHS						

Ferrous Alloys



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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