



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**109030**  
 Component  
**Diesel Engine**  
 Fluid  
**SHELL ROTELLA T 15W40 (--- QTS)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>IL0032940</b>	IL0027461	IL0027616
Sample Date		Client Info		<b>19 Jun 2024</b>	03 Aug 2023	04 Aug 2022
Machine Age	mls	Client Info		<b>72650</b>	50043	41993
Oil Age	mls	Client Info		<b>226007</b>	8050	12538
Filter Age	mls	Client Info		<b>226007</b>	8050	12538
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	<b>62</b>	114	87
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	1	1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>20	<b>14</b>	13	31
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>2</b>	2	4
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

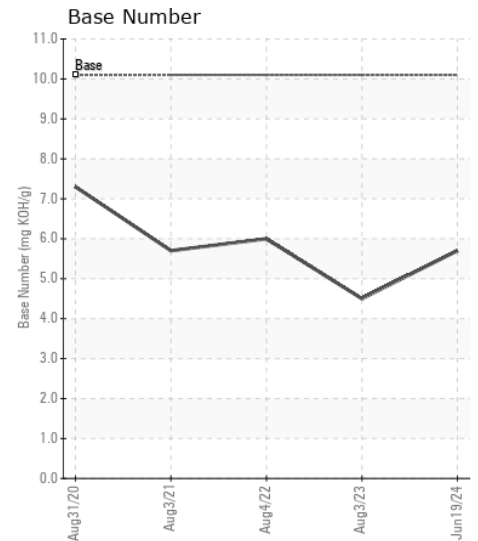
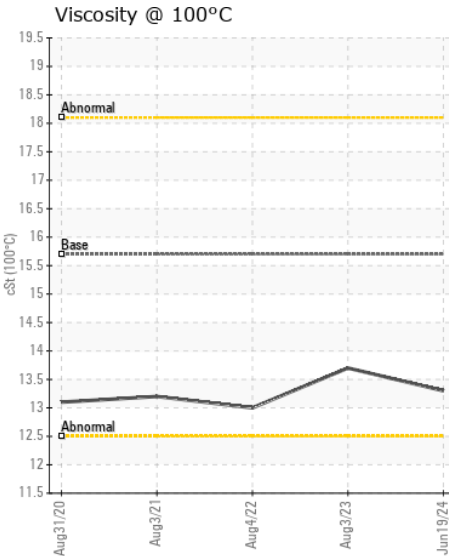
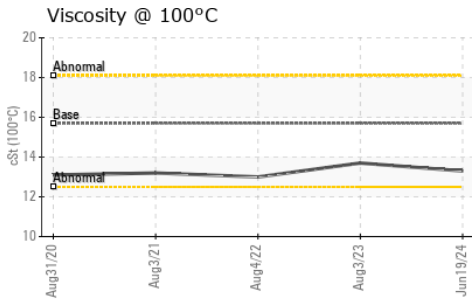
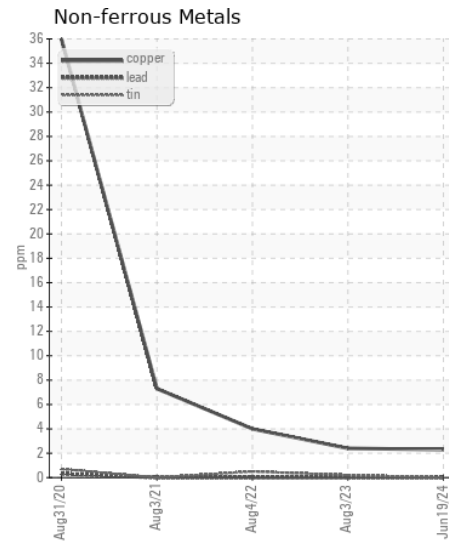
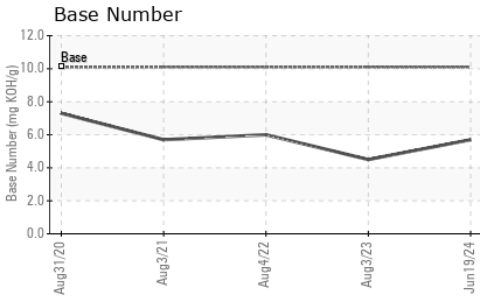
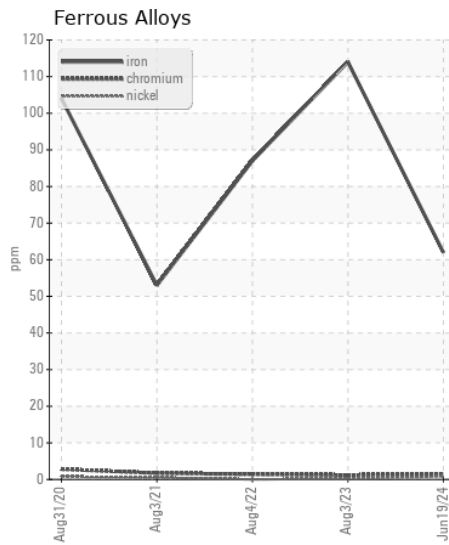
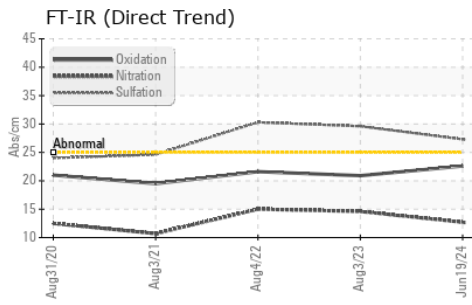
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>14</b>	13	14
Potassium	ppm	ASTM D5185m	>20	<b>18</b>	17	55
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>6	<b>1.3</b>	2.2	1.7
Nitration	Abs/cm	*ASTM D7624	>20	<b>12.7</b>	14.6	15.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>27.3</b>	29.6	30.3
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

### 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.

Sodium	ppm	ASTM D5185m		<b>4</b>	<1	0
Boron	ppm	ASTM D5185m	316	<b>36</b>	23	28
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	1.2	<b>32</b>	91	85
Manganese	ppm	ASTM D5185m		<b>2</b>	2	2
Magnesium	ppm	ASTM D5185m	24	<b>264</b>	48	44
Calcium	ppm	ASTM D5185m	2292	<b>2066</b>	2153	2262
Phosphorus	ppm	ASTM D5185m	1064	<b>1009</b>	894	953
Zinc	ppm	ASTM D5185m	1160	<b>1261</b>	1090	1115
Sulfur	ppm	ASTM D5185m	4996	<b>3948</b>	3654	3707
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>22.6</b>	20.9	21.6
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	<b>5.7</b>	4.5	6
Visc @ 100°C	cSt	ASTM D445	15.7	<b>13.3</b>	13.7	13.0



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : IL0032940

Lab Number : 06219348

Unique Number : 11097545

Test Package : FLEET

Received : 25 Jun 2024

Tested : 25 Jun 2024

Diagnosed : 26 Jun 2024 - Don Baldrige

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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)