



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Machine Id  
**2006**  
Component  
**Diesel Engine**  
Fluid  
**SHELL ROTELLA T 15W40 (--- GAL)**

### RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0195458</b>	JR0195120	JR0184919
Sample Date		Client Info		<b>13 Feb 2024</b>	28 Nov 2023	12 Sep 2023
Machine Age	hrs	Client Info		<b>15893</b>	15542	15136
Oil Age	hrs	Client Info		<b>750</b>	500	250
Filter Age	hrs	Client Info		<b>750</b>	500	250
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	ABNORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	<b>6</b>	7	6
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>10	<b>1</b>	2	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>3</b>	2	3
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>20	<b>2</b>	1	<1
Tin	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

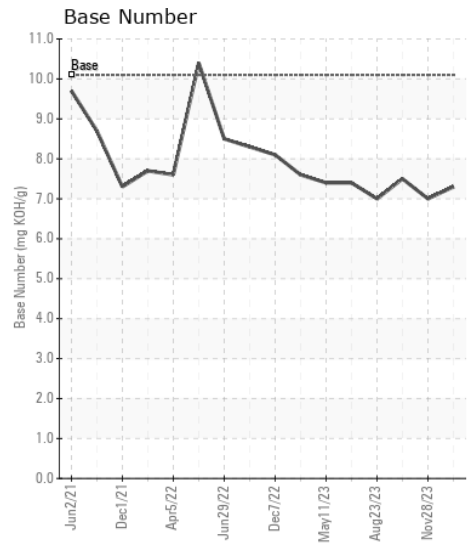
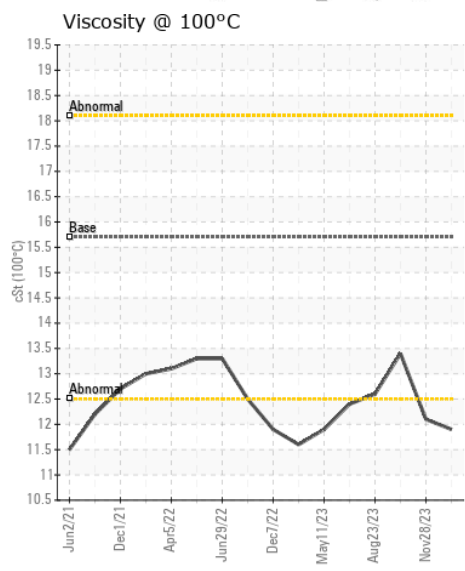
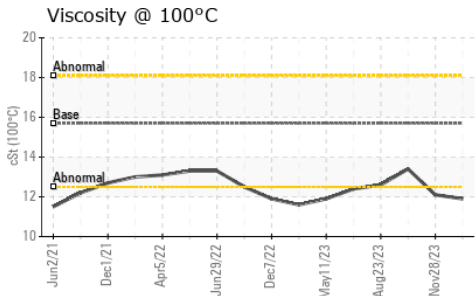
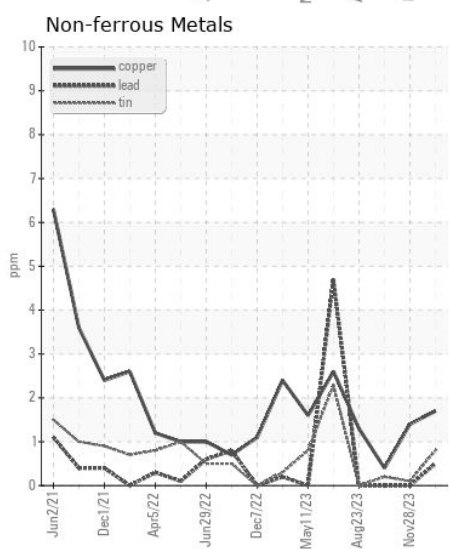
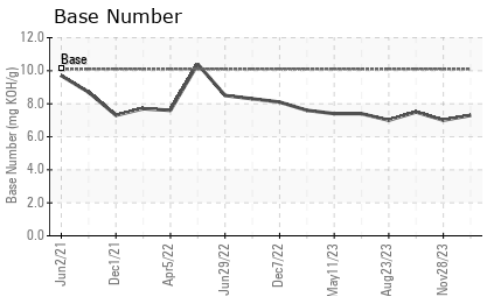
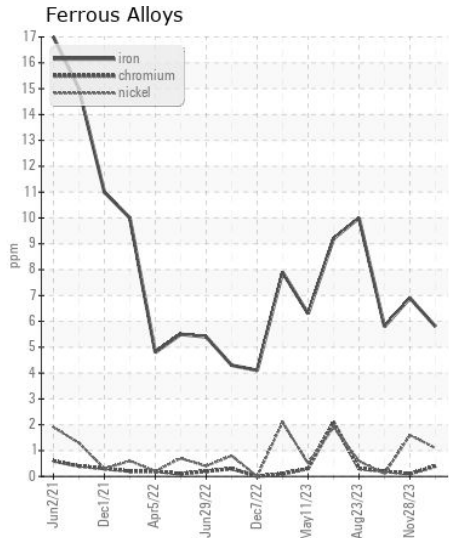
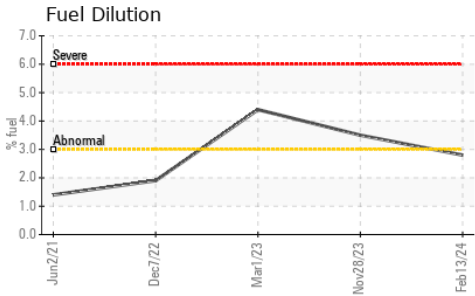
Light fuel dilution occurring. No other contaminants were detected in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>7</b>	8	4
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	2	2
Fuel	%	ASTM D3524	>3.0	<b>2.8</b>	▲ 3.5	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.8</b>	6.5	5.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>15.6</b>	15.9	15.4
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>1</b>	0	1
Boron	ppm	ASTM D5185m	316	<b>3</b>	4	3
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	2	0
Molybdenum	ppm	ASTM D5185m	1.2	<b>3</b>	3	4
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m	24	<b>40</b>	41	44
Calcium	ppm	ASTM D5185m	2292	<b>2194</b>	2195	2209
Phosphorus	ppm	ASTM D5185m	1064	<b>847</b>	816	860
Zinc	ppm	ASTM D5185m	1160	<b>1011</b>	988	1034
Sulfur	ppm	ASTM D5185m	4996	<b>3780</b>	5023	4140
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>9.2</b>	9.5	9.4
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	<b>7.3</b>	7.0	7.5
Visc @ 100°C	cSt	ASTM D445	15.7	<b>11.9</b>	▲ 12.1	13.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0195458 **Received** : 20 Mar 2024  
**Lab Number** : 06123496 **Tested** : 22 Mar 2024  
**Unique Number** : 10937647 **Diagnosed** : 22 Mar 2024 - Wes Davis  
**Test Package** : CONST ( Additional Tests: PercentFuel, TBN )

**PATRIOT DEVELOPMENT CORP**  
 22721 LADBROOK DRIVE STE 120  
 STERLING, VA  
 US 20166  
 Contact: ROBERT MOSS  
 robert.moss@patriotdev.net

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)

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F: