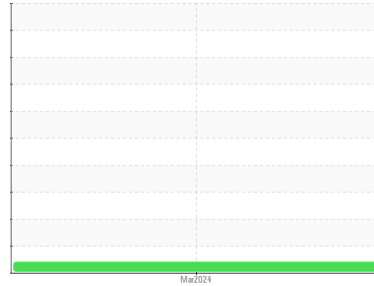




# OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Area  
**TULSA [22166]**  
 Machine Id  
**89-226**  
 Component  
**Diesel Engine**  
 Fluid  
**SHELL ROTELLA T 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

### Wear

Metal levels are typical for a new component breaking in.

### Contamination

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

### 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.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0836089</b>	---	---
Sample Date	Client Info		<b>01 Mar 2024</b>	---	---
Machine Age	hrs	Client Info	<b>336</b>	---	---
Oil Age	hrs	Client Info	<b>336</b>	---	---
Oil Changed	Client Info		<b>Changed</b>	---	---
Sample Status			<b>ATTENTION</b>	---	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	<b>NEG</b>	---	---
Glycol	WC Method		<b>NEG</b>	---	---

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >90	<b>8</b>	---	---
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	---	---
Nickel	ppm	ASTM D5185m >2	<b>&lt;1</b>	---	---
Titanium	ppm	ASTM D5185m >2	<b>24</b>	---	---
Silver	ppm	ASTM D5185m >2	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m >20	<b>3</b>	---	---
Lead	ppm	ASTM D5185m >40	<b>3</b>	---	---
Copper	ppm	ASTM D5185m >330	<b>3</b>	---	---
Tin	ppm	ASTM D5185m >15	<b>1</b>	---	---
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Cadmium	ppm	ASTM D5185m	<b>0</b>	---	---

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 316	<b>60</b>	---	---
Barium	ppm	ASTM D5185m 0.0	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m 1.2	<b>16</b>	---	---
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Magnesium	ppm	ASTM D5185m 24	<b>157</b>	---	---
Calcium	ppm	ASTM D5185m 2292	<b>2557</b>	---	---
Phosphorus	ppm	ASTM D5185m 1064	<b>970</b>	---	---
Zinc	ppm	ASTM D5185m 1160	<b>1143</b>	---	---
Sulfur	ppm	ASTM D5185m 4996	<b>5407</b>	---	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>17</b>	---	---
Sodium	ppm	ASTM D5185m	<b>3</b>	---	---
Potassium	ppm	ASTM D5185m >20	<b>8</b>	---	---
Fuel	%	ASTM D3524 >3.0	<b>0.4</b>	---	---

## INFRA-RED

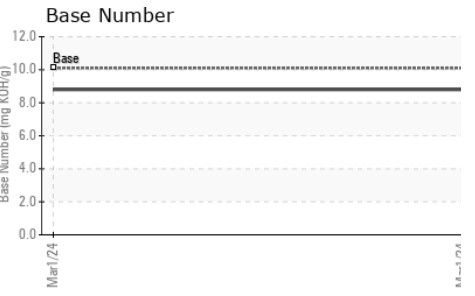
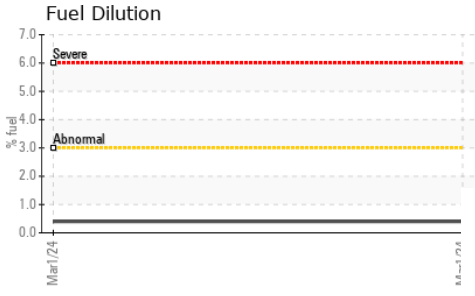
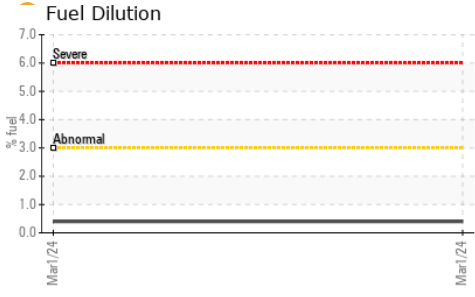
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	<b>0.1</b>	---	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>5.5</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>15.9</b>	---	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>10.1</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896 10.1	<b>8.8</b>	---	---



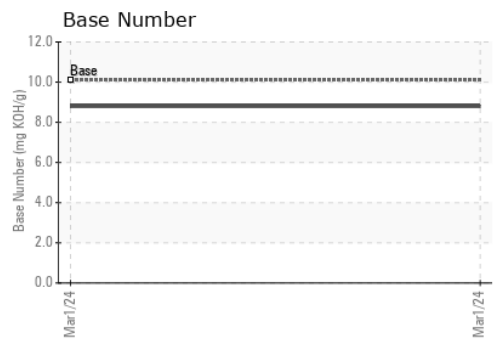
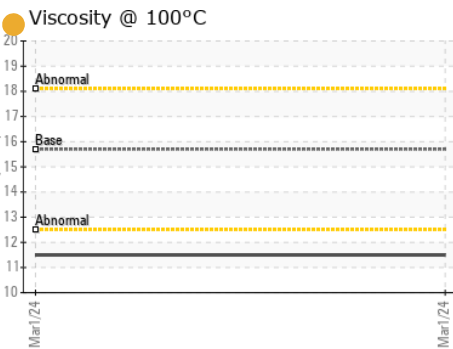
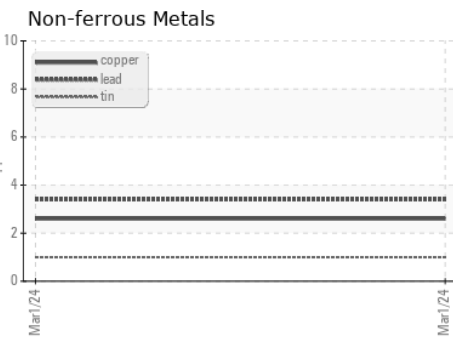
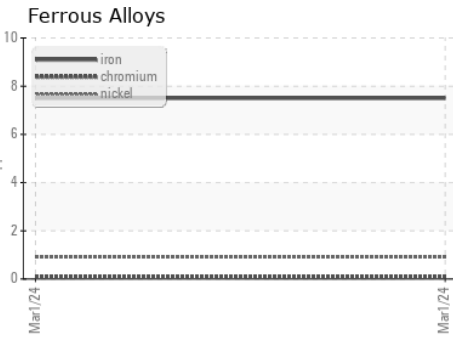
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	---	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	---	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	---	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	---	---
Free Water	scalar	*Visual		<b>NEG</b>	---	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7 <span style="color: orange;">●</span> <b>11.5</b>	---	---

### GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0836089 **Received** : 29 Mar 2024  
**Lab Number** : **06133022** **Tested** : 03 Apr 2024  
**Unique Number** : 10952487 **Diagnosed** : 03 Apr 2024 - Jonathan Hester  
**Test Package** : CONST ( Additional Tests: FuelDilution, PercentFuel, TBN )

**MANHATTAN ROAD AND BRIDGE**  
 5601 S 122ND E AVE  
 TULSA, OK  
 US 74146  
 Contact: BEN CALDWELL  
 kevin.marson@wearcheck.com  
 T: (918)728-5749  
 F:

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)