



# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id

**2323**

Component

**Diesel Engine**

Fluid

**ROYAL PURPLE MOTOR OIL 15W40 (--- QTS)**

## 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

All component wear rates are normal.

### Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. 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.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0719991</b>	---	---
Sample Date	Client Info		<b>10 Apr 2024</b>	---	---
Machine Age	mls	Client Info	<b>217266</b>	---	---
Oil Age	mls	Client Info	<b>100000</b>	---	---
Oil Changed	Client Info		<b>Changed</b>	---	---
Sample Status			<b>NORMAL</b>	---	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	---	---
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 >100	<b>85</b>	---	---
Chromium	ppm	ASTM D5185m >20	<b>3</b>	---	---
Nickel	ppm	ASTM D5185m >4	<b>1</b>	---	---
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Silver	ppm	ASTM D5185m >3	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m >20	<b>22</b>	---	---
Lead	ppm	ASTM D5185m >40	<b>0</b>	---	---
Copper	ppm	ASTM D5185m >330	<b>84</b>	---	---
Tin	ppm	ASTM D5185m >15	<b>2</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 0	<b>0</b>	---	---
Barium	ppm	ASTM D5185m 0	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m 100	<b>14</b>	---	---
Manganese	ppm	ASTM D5185m	<b>1</b>	---	---
Magnesium	ppm	ASTM D5185m 60	<b>201</b>	---	---
Calcium	ppm	ASTM D5185m 3050	<b>2399</b>	---	---
Phosphorus	ppm	ASTM D5185m 1050	<b>994</b>	---	---
Zinc	ppm	ASTM D5185m 1200	<b>1198</b>	---	---
Sulfur	ppm	ASTM D5185m 12500	<b>2989</b>	---	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>10</b>	---	---
Sodium	ppm	ASTM D5185m	<b>2</b>	---	---
Potassium	ppm	ASTM D5185m >20	<b>56</b>	---	---

## INFRA-RED

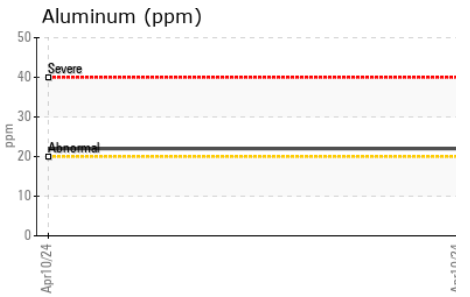
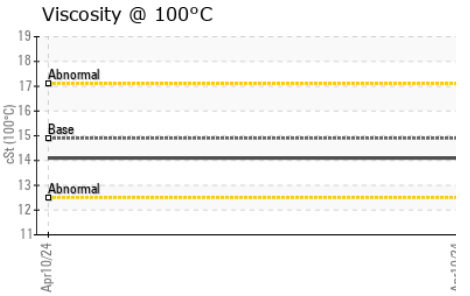
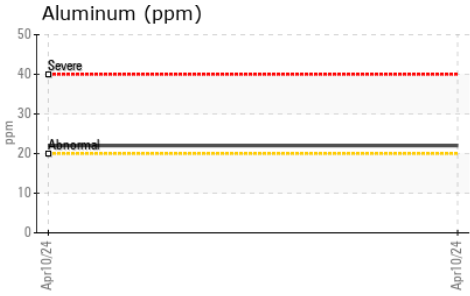
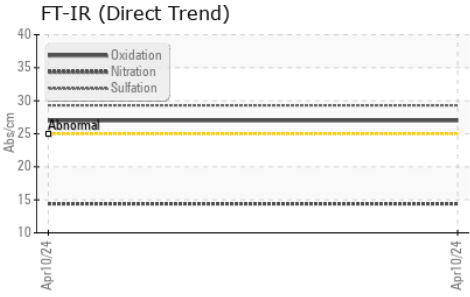
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>1.8</b>	---	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>14.4</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>29.3</b>	---	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>27.0</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896 10.5	<b>4.3</b>	---	---



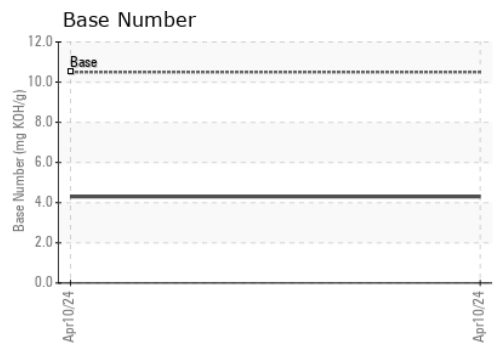
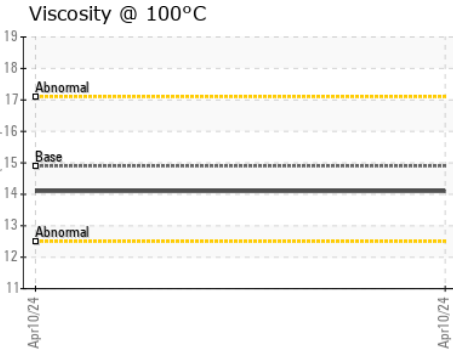
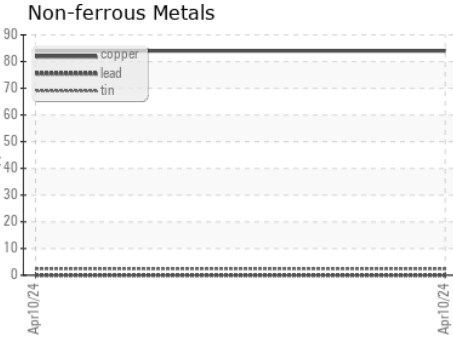
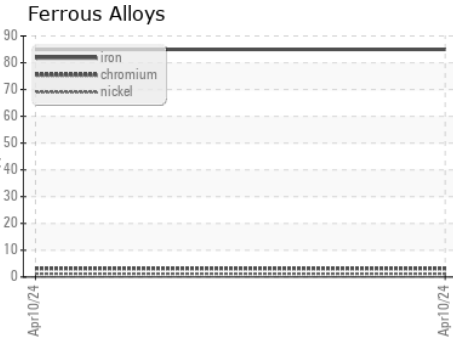
# OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.9	14.1	---

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0719991      **Received** : 09 May 2024  
**Lab Number** : **06174837**      **Tested** : 10 May 2024  
**Unique Number** : 11020890      **Diagnosed** : 13 May 2024 - Sean Felton  
**Test Package** : FLEET

**DILLON TRANSPORTATION**  
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 ASHLAND CITY, TN  
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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)