



# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Machine Id

**2422**

Component

**Diesel Engine**

Fluid

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

## DIAGNOSIS

### ▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### ▲ Wear

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other 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>WC0720075</b>	---	---
Sample Date	Client Info		<b>12 Apr 2024</b>	---	---
Machine Age	mls	Client Info	<b>76707</b>	---	---
Oil Age	mls	Client Info	<b>50000</b>	---	---
Oil Changed	Client Info		<b>Not Changed</b>	---	---
Sample Status			<b>ABNORMAL</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>50</b>	---	---
Chromium	ppm	ASTM D5185m >20	<b>6</b>	---	---
Nickel	ppm	ASTM D5185m >4	<b>&lt;1</b>	---	---
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Silver	ppm	ASTM D5185m >3	<b>&lt;1</b>	---	---
Aluminum	ppm	ASTM D5185m >20	<b>76</b>	---	---
Lead	ppm	ASTM D5185m >40	<b>0</b>	---	---
Copper	ppm	ASTM D5185m >330	<b>▲ 358</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>1</b>	---	---
Barium	ppm	ASTM D5185m 0	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m 100	<b>7</b>	---	---
Manganese	ppm	ASTM D5185m	<b>1</b>	---	---
Magnesium	ppm	ASTM D5185m 60	<b>86</b>	---	---
Calcium	ppm	ASTM D5185m 3050	<b>2413</b>	---	---
Phosphorus	ppm	ASTM D5185m 1050	<b>911</b>	---	---
Zinc	ppm	ASTM D5185m 1200	<b>1084</b>	---	---
Sulfur	ppm	ASTM D5185m 12500	<b>2891</b>	---	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>8</b>	---	---
Sodium	ppm	ASTM D5185m	<b>2</b>	---	---
Potassium	ppm	ASTM D5185m >20	<b>157</b>	---	---

## INFRA-RED

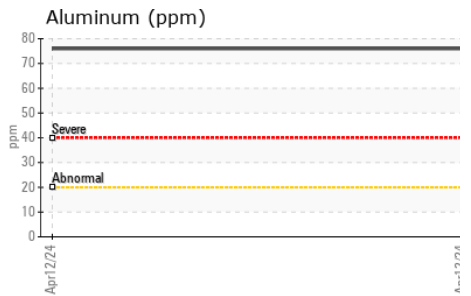
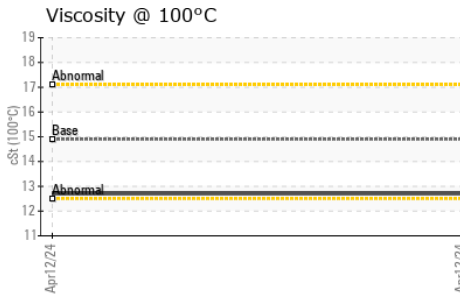
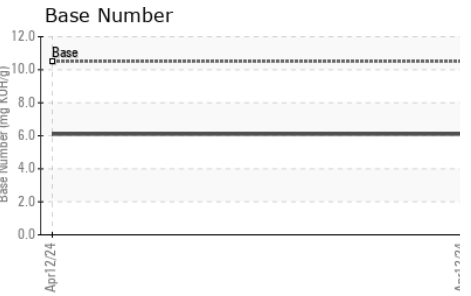
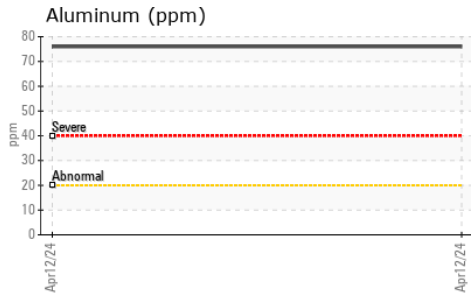
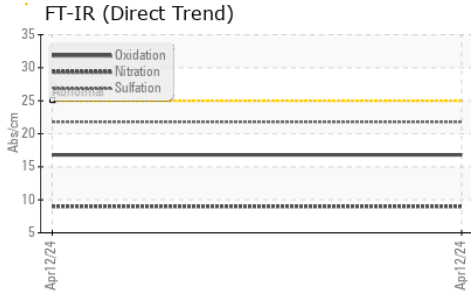
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.6</b>	---	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>9.0</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>21.8</b>	---	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>16.8</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896 10.5	<b>6.1</b>	---	---



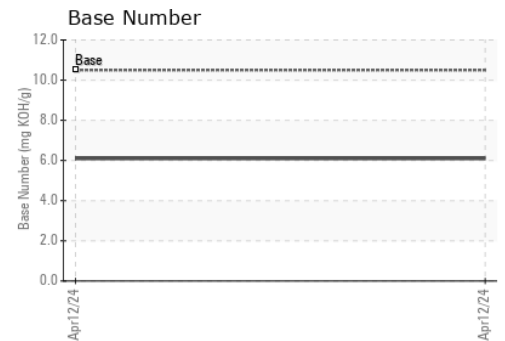
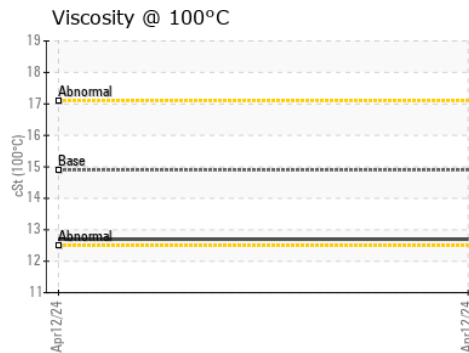
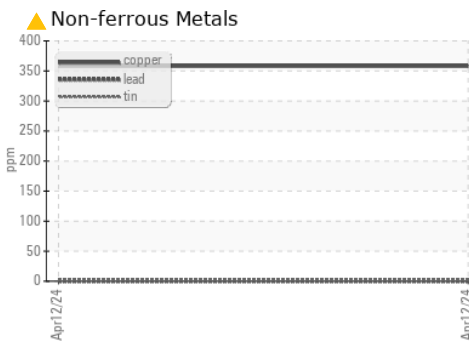
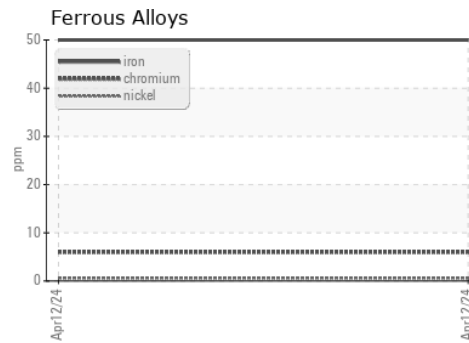
# OIL ANALYSIS REPORT



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	12.7	---

## GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : WC0720075  
 Lab Number : 06174833  
 Unique Number : 11020886  
 Test Package : FLEET

Received : 09 May 2024  
 Tested : 10 May 2024  
 Diagnosed : 13 May 2024 - Sean Felton

**DILLON TRANSPORTATION**  
 974 TN WALTZ PARKWAY  
 ASHLAND CITY, TN  
 US 37015

Contact: MASON NICHOLSON  
 M.NICHOLSON@DILLONTRANSPORTATION.COM

T: (615)792-5099

F: (615)469-4200

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)