



# OIL ANALYSIS REPORT

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

Machine Id  
**2413**  
 Component  
**Diesel Engine**  
 Fluid  
**ROYAL PURPLE MOTOR OIL 15W40 (--- QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0907392</b>	WC0720097	WC0720082
Sample Date		Client Info		<b>22 Jun 2024</b>	04 May 2024	09 Mar 2024
Machine Age	mls	Client Info		<b>183108</b>	132856	76207
Oil Age	mls	Client Info		<b>50000</b>	100000	50000
Filter Age	mls	Client Info		<b>50000</b>	50000	50000
Oil Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
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	>100	<b>38</b>	77	38
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	4	2
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>20	<b>16</b>	41	27
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>99</b>	▲ 353	326
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	2	1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

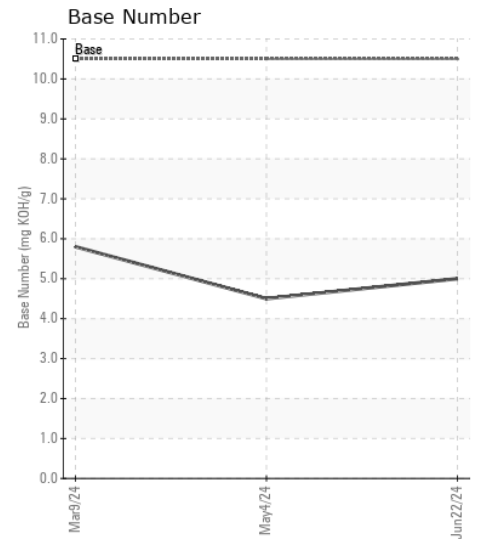
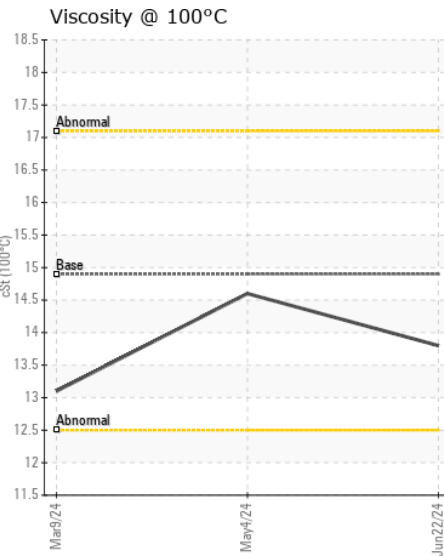
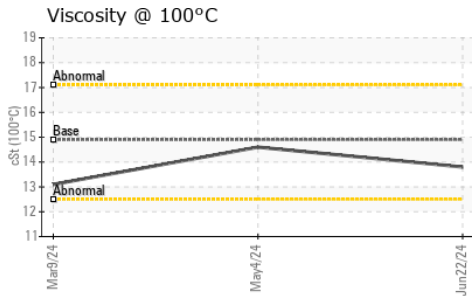
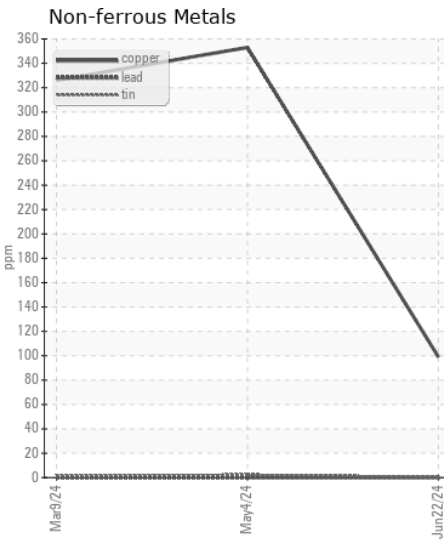
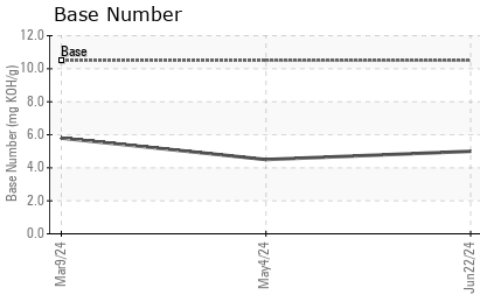
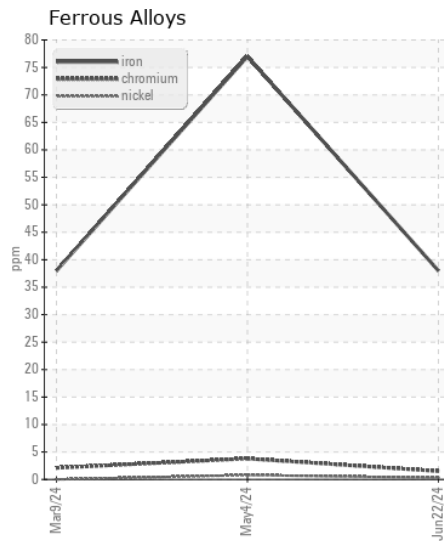
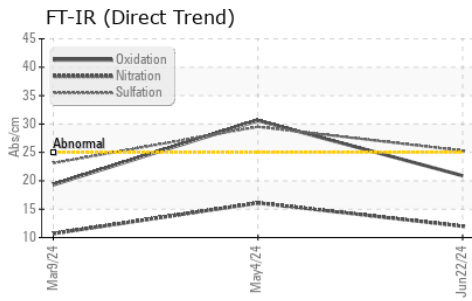
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>9</b>	11	7
Potassium	ppm	ASTM D5185m	>20	<b>36</b>	91	57
Fuel		WC Method	>5	<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	>3	<b>1.1</b>	1.5	0.7
Nitration	Abs/cm	*ASTM D7624	>20	<b>12.0</b>	16.1	10.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>25.3</b>	29.5	23.1
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>	3	2
Boron	ppm	ASTM D5185m	0	<b>0</b>	0	2
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>2</b>	7	8
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	2	2
Magnesium	ppm	ASTM D5185m	60	<b>28</b>	89	104
Calcium	ppm	ASTM D5185m	3050	<b>2647</b>	2645	2569
Phosphorus	ppm	ASTM D5185m	1050	<b>893</b>	1027	1024
Zinc	ppm	ASTM D5185m	1200	<b>1168</b>	1202	1241
Sulfur	ppm	ASTM D5185m	12500	<b>2946</b>	2935	3409
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.9</b>	30.6	19.3
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	<b>5.0</b>	4.5	5.8
Visc @ 100°C	cSt	ASTM D445	14.9	<b>13.8</b>	14.6	13.1



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0907392  
**Lab Number** : 06241099  
**Unique Number** : 11129933  
**Test Package** : FLEET  
**Received** : 18 Jul 2024  
**Tested** : 19 Jul 2024  
**Diagnosed** : 19 Jul 2024 - Wes Davis

**DILLON TRANSPORTATION**  
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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)