



# OIL ANALYSIS REPORT

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

Machine Id  
**2202**  
 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>WC0719979</b>	WC0719897	WC0719930
Sample Date		Client Info		<b>02 Jun 2024</b>	18 Nov 2023	20 Jul 2023
Machine Age	mls	Client Info		<b>375946</b>	326364	277050
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>81</b>	94	58
Chromium	ppm	ASTM D5185m	>20	<b>4</b>	6	3
Nickel	ppm	ASTM D5185m	>4	<b>1</b>	1	<1
Titanium	ppm	ASTM D5185m		<b>1</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185m	>20	<b>13</b>	20	9
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m	>330	<b>19</b>	36	32
Tin	ppm	ASTM D5185m	>15	<b>1</b>	1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	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.

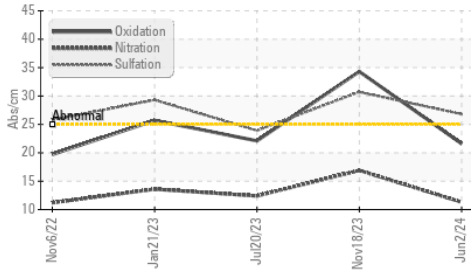
Silicon	ppm	ASTM D5185m	>25	<b>23</b>	21	9
Potassium	ppm	ASTM D5185m	>20	<b>17</b>	24	19
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>1.3</b>	2	1.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.3</b>	16.9	12.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>26.8</b>	30.7	23.9
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

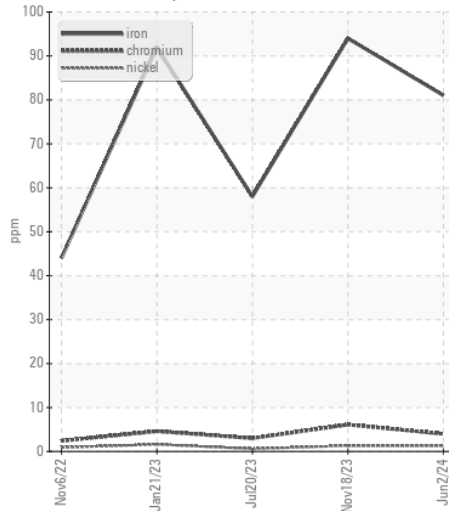
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>2</b>	4	2
Boron	ppm	ASTM D5185m	0	<b>0</b>	<1	0
Barium	ppm	ASTM D5185m	0	<b>1</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>13</b>	56	56
Manganese	ppm	ASTM D5185m		<b>2</b>	2	1
Magnesium	ppm	ASTM D5185m	60	<b>175</b>	865	892
Calcium	ppm	ASTM D5185m	3050	<b>2447</b>	1459	1485
Phosphorus	ppm	ASTM D5185m	1050	<b>1077</b>	1058	1023
Zinc	ppm	ASTM D5185m	1200	<b>1216</b>	1378	1356
Sulfur	ppm	ASTM D5185m	12500	<b>3397</b>	2442	2611
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>21.6</b>	34.3	22.1
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	<b>4.5</b>	▲ 3.2	6.6
Visc @ 100°C	cSt	ASTM D445	14.9	<b>13.7</b>	14.3	13.3

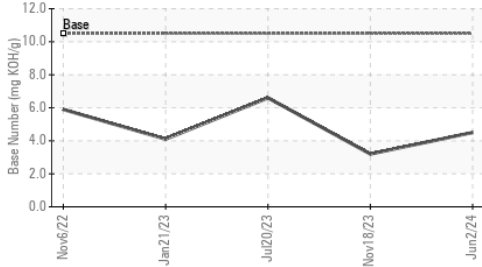
**FT-IR (Direct Trend)**



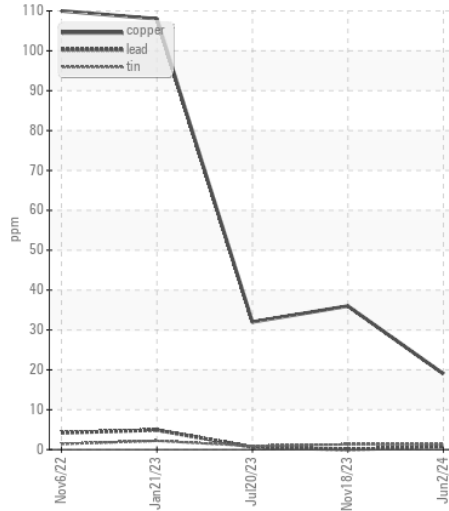
**Ferrous Alloys**



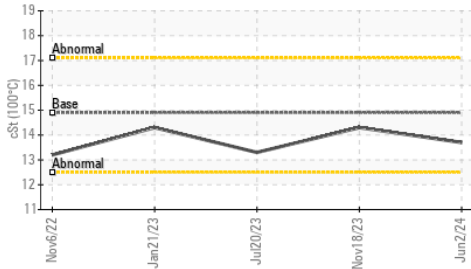
**Base Number**



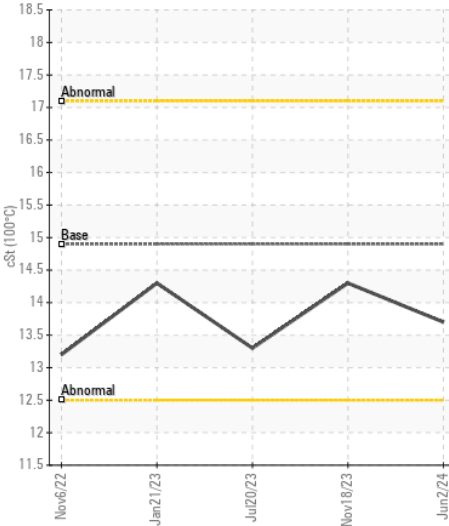
**Non-ferrous Metals**



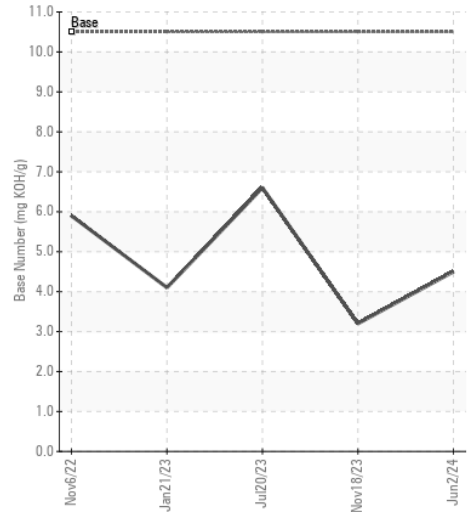
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0719979  
**Lab Number** : 06219211  
**Unique Number** : 11097408  
**Test Package** : FLEET

**Received** : 24 Jun 2024  
**Tested** : 25 Jun 2024  
**Diagnosed** : 25 Jun 2024 - Wes Davis

**DILLON TRANSPORTATION**  
 4445 NORTH INTERSTATE WAY  
 KINGMAN, AZ  
 US 86401  
 Contact: T LAMOREAUX  
 t.lamoreaux@dillontransportation.com

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)

T:  
F: