



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
2327
 Component
Diesel Engine
 Fluid
ROYAL PURPLE MOTOR OIL 15W40 (--- QTS)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0720167	WC0720152	---
Sample Date		Client Info		11 Apr 2024	19 Dec 2023	---
Machine Age	mls	Client Info		244755	178274	---
Oil Age	mls	Client Info		100000	50000	---
Filter Age	mls	Client Info		50000	50000	---
Oil Changed		Client Info		Changed	Not Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	80	42	---
Chromium	ppm	ASTM D5185m	>20	3	2	---
Nickel	ppm	ASTM D5185m	>4	<1	<1	---
Titanium	ppm	ASTM D5185m		0	0	---
Silver	ppm	ASTM D5185m	>3	0	<1	---
Aluminum	ppm	ASTM D5185m	>20	27	16	---
Lead	ppm	ASTM D5185m	>40	0	<1	---
Copper	ppm	ASTM D5185m	>330	38	35	---
Tin	ppm	ASTM D5185m	>15	0	<1	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

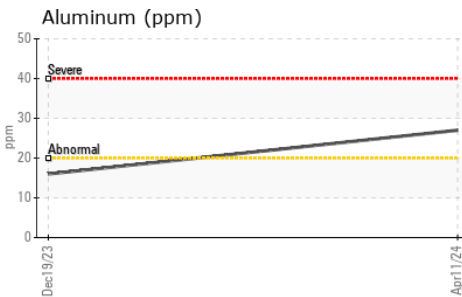
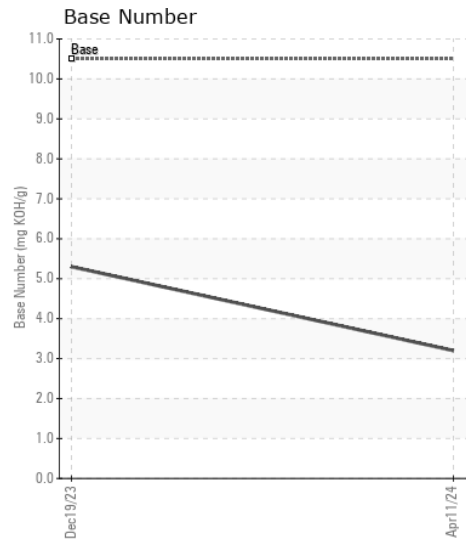
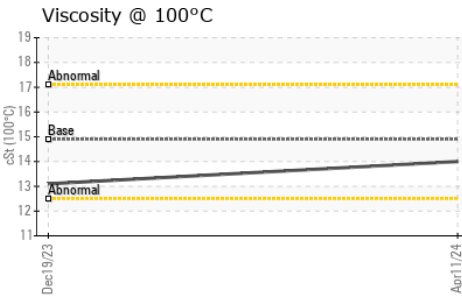
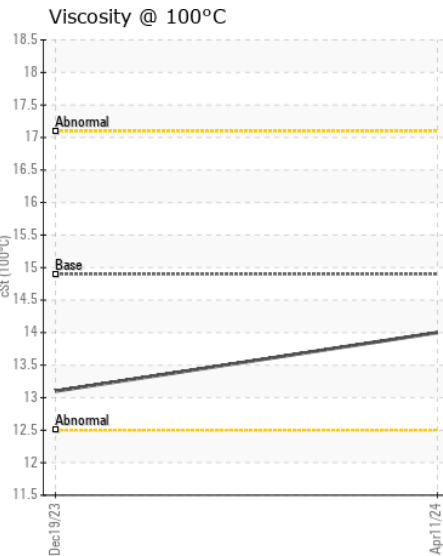
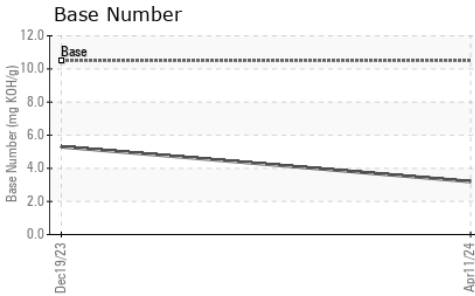
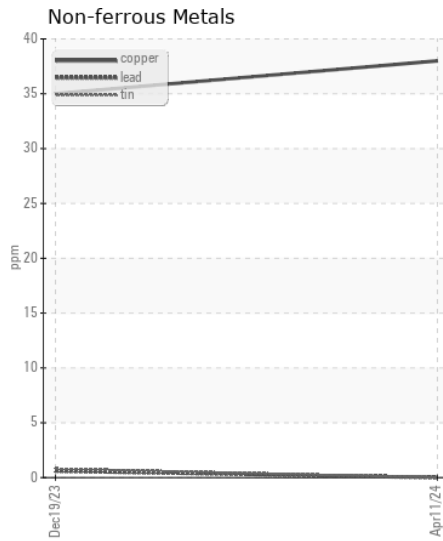
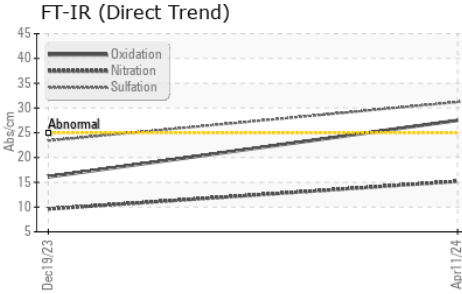
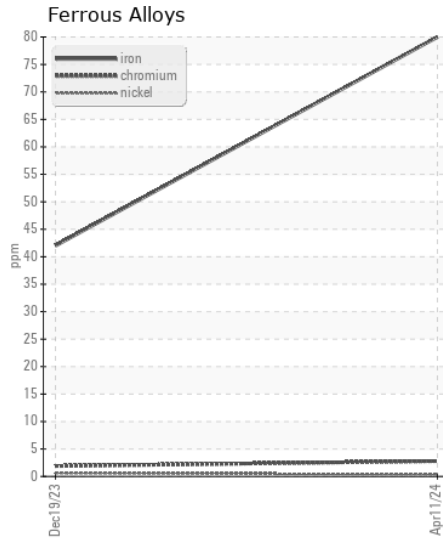
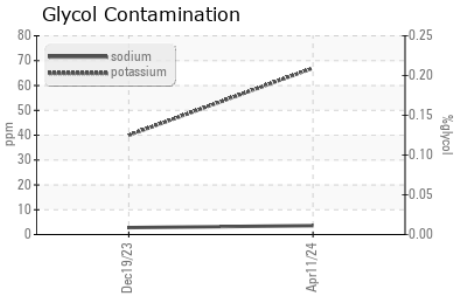
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. No other contaminants were detected in the oil.

Silicon	ppm	ASTM D5185m	>25	12	10	---
Potassium	ppm	ASTM D5185m	>20	67	40	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	1.6	0.8	---
Nitration	Abs/cm	*ASTM D7624	>20	15.2	9.6	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	31.2	23.4	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	---

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		4	3	---
Boron	ppm	ASTM D5185m	0	0	0	---
Barium	ppm	ASTM D5185m	0	0	0	---
Molybdenum	ppm	ASTM D5185m	100	2	0	---
Manganese	ppm	ASTM D5185m		1	1	---
Magnesium	ppm	ASTM D5185m	60	36	37	---
Calcium	ppm	ASTM D5185m	3050	2637	2591	---
Phosphorus	ppm	ASTM D5185m	1050	886	989	---
Zinc	ppm	ASTM D5185m	1200	1106	1239	---
Sulfur	ppm	ASTM D5185m	12500	3443	3362	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	27.5	16.1	---
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	3.2	5.3	---
Visc @ 100°C	cSt	ASTM D445	14.9	14.0	13.1	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0720167
Lab Number : 06149451
Unique Number : 10979529
Test Package : FLEET

Received : 15 Apr 2024
Tested : 16 Apr 2024
Diagnosed : 17 Apr 2024 - Don Baldrige

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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)