



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
2326
Component
Diesel Engine
Fluid
ROYAL PURPLE MOTOR OIL 15W40 (--- QTS)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0720061	WC0720106	---
Sample Date		Client Info		06 Dec 2023	09 Jun 2023	---
Machine Age	mls	Client Info		228564	76732	---
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	N/A	---
Sample Status				ABNORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	74	55	---
Chromium	ppm	ASTM D5185m	>20	3	4	---
Nickel	ppm	ASTM D5185m	>4	<1	<1	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m	>3	<1	0	---
Aluminum	ppm	ASTM D5185m	>20	19	60	---
Lead	ppm	ASTM D5185m	>40	<1	2	---
Copper	ppm	ASTM D5185m	>330	72	291	---
Tin	ppm	ASTM D5185m	>15	2	2	---
Vanadium	ppm	ASTM D5185m		0	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

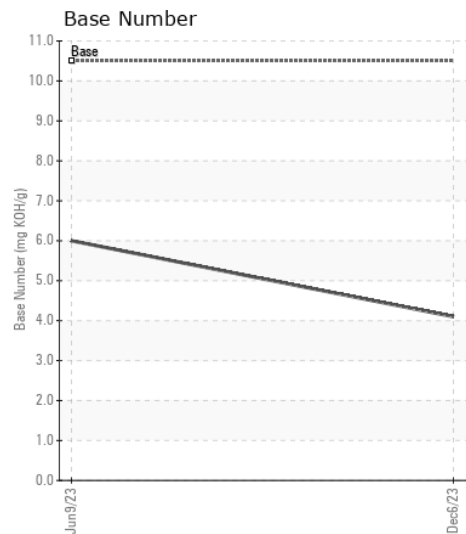
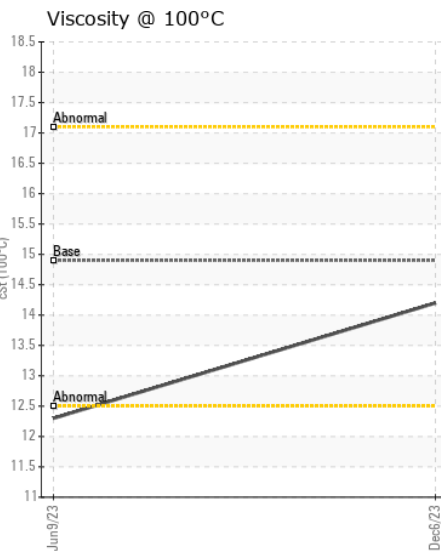
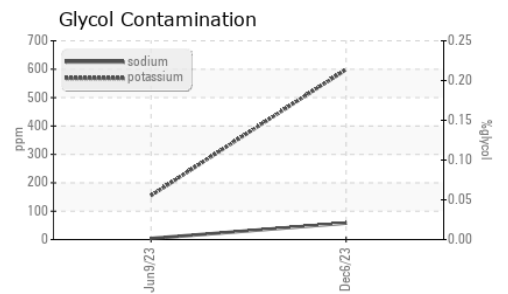
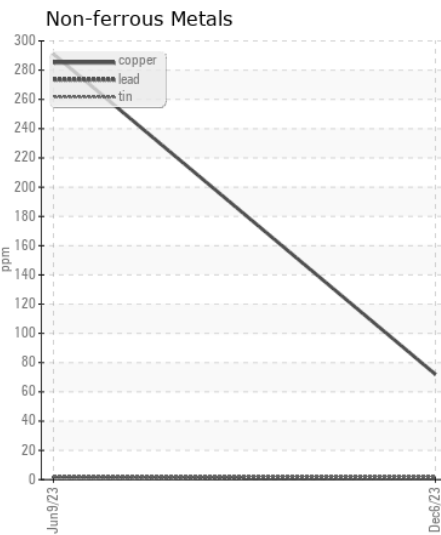
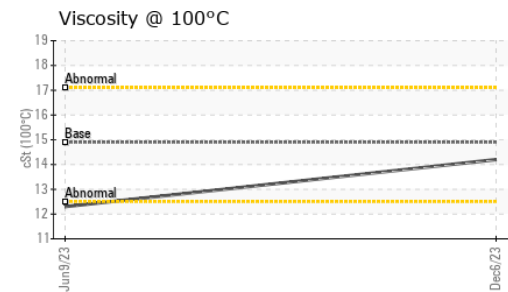
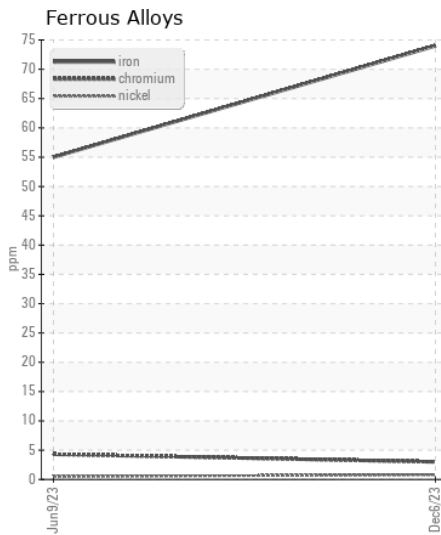
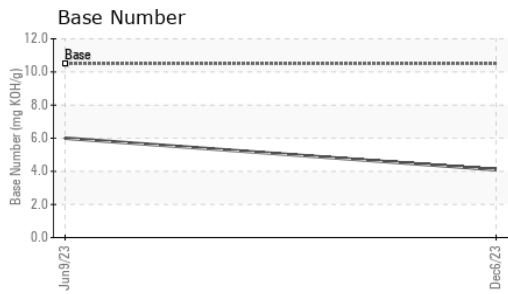
Sodium and/or potassium levels are high.

Silicon	ppm	ASTM D5185m	>25	14	7	---
Potassium	ppm	ASTM D5185m	>20	▲ 599	155	---
Fuel		WC Method	>5	<1.0	0.3	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol	%	*ASTM D2982		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	1.4	0.6	---
Nitration	Abs/cm	*ASTM D7624	>20	14.9	9.3	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	30.1	22.6	---
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.

Sodium	ppm	ASTM D5185m		▲ 58	4	---
Boron	ppm	ASTM D5185m	0	0	<1	---
Barium	ppm	ASTM D5185m	0	0	0	---
Molybdenum	ppm	ASTM D5185m	100	2	7	---
Manganese	ppm	ASTM D5185m		1	2	---
Magnesium	ppm	ASTM D5185m	60	33	96	---
Calcium	ppm	ASTM D5185m	3050	2712	2544	---
Phosphorus	ppm	ASTM D5185m	1050	1008	851	---
Zinc	ppm	ASTM D5185m	1200	1272	1081	---
Sulfur	ppm	ASTM D5185m	12500	3300	3146	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	26.7	16.9	---
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	4.1	6.0	---
Visc @ 100°C	cSt	ASTM D445	14.9	14.2	12.3	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0720061 **Received** : 08 Jan 2024
Lab Number : 06054697 **Diagnosed** : 10 Jan 2024
Unique Number : 10820646 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

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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)