



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
2324
 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		WC0719987	WC0720115	WC0719710
Sample Date		Client Info		07 Apr 2024	09 Jun 2023	24 Apr 2023
Machine Age	mls	Client Info		169835	0	84003
Oil Age	mls	Client Info		50000	100000	50000
Filter Age	mls	Client Info		50000	50000	50000
Oil Changed		Client Info		Not Chngd	Changed	Not Chngd
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	86	▲ 108	67
Chromium	ppm	ASTM D5185m	>20	3	6	4
Nickel	ppm	ASTM D5185m	>4	<1	2	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	43	76	45
Lead	ppm	ASTM D5185m	>40	0	<1	1
Copper	ppm	ASTM D5185m	>330	69	191	164
Tin	ppm	ASTM D5185m	>15	1	4	3
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

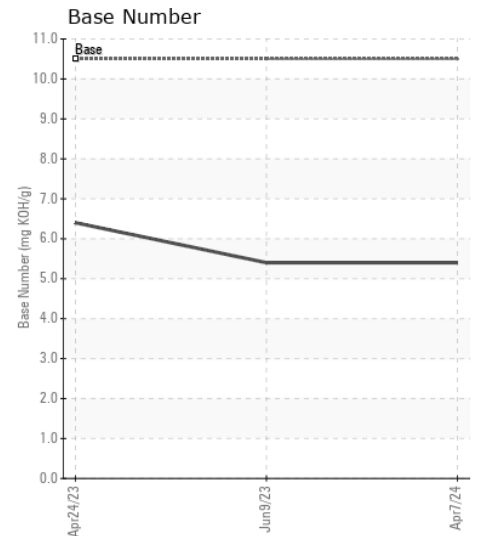
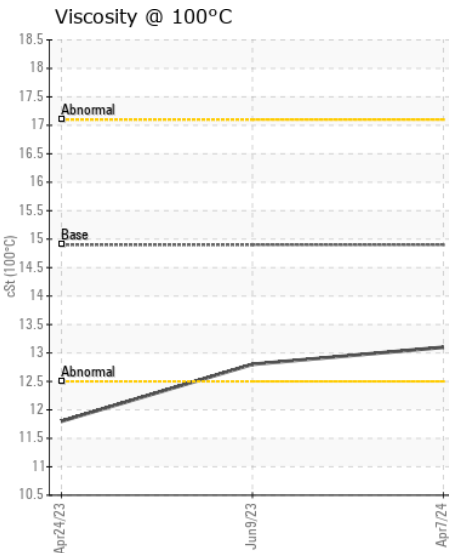
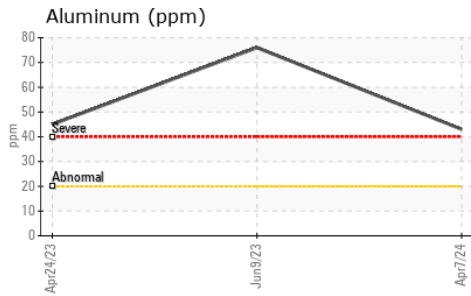
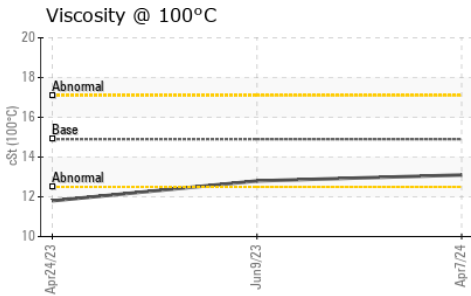
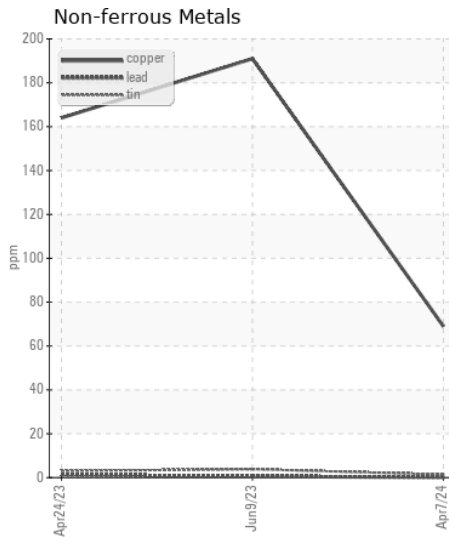
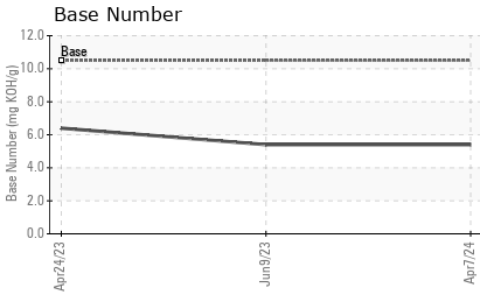
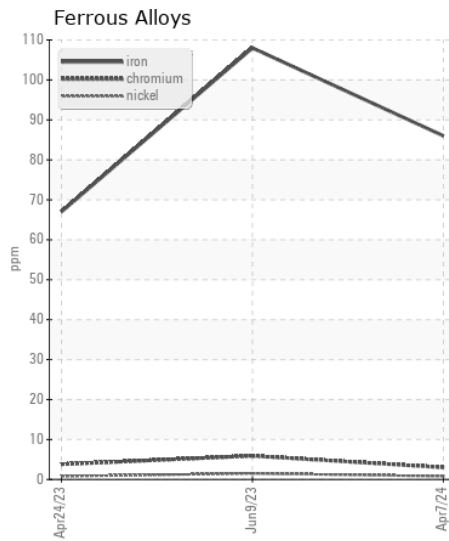
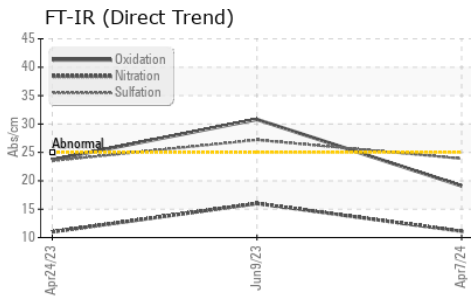
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	11	10	7
Potassium	ppm	ASTM D5185m	>20	118	158	94
Fuel		WC Method	>5	<1.0	<1.0	0.2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1	1.5	0.9
Nitration	Abs/cm	*ASTM D7624	>20	11.1	16.0	11.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.9	27.2	23.5
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	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		2	4	3
Boron	ppm	ASTM D5185m	0	0	1	3
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	100	17	62	56
Manganese	ppm	ASTM D5185m		1	3	2
Magnesium	ppm	ASTM D5185m	60	242	922	863
Calcium	ppm	ASTM D5185m	3050	2254	1652	1486
Phosphorus	ppm	ASTM D5185m	1050	1007	991	913
Zinc	ppm	ASTM D5185m	1200	1174	1254	1195
Sulfur	ppm	ASTM D5185m	12500	3113	2441	2262
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.1	30.8	23.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	5.4	5.4	6.4
Visc @ 100°C	cSt	ASTM D445	14.9	13.1	12.8	11.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0719987
Lab Number : 06174830
Unique Number : 11020883
Test Package : FLEET

Received : 09 May 2024
Tested : 10 May 2024
Diagnosed : 10 May 2024 - Wes Davis

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

Contact: MASON NICHOLSON
 M.NICHOLSON@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)

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