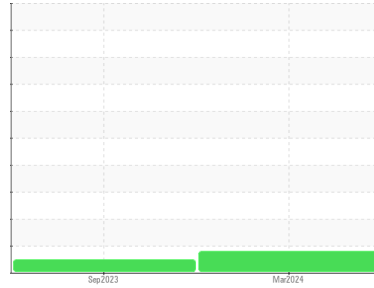




OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
529047

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

▲ Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

▲ Wear

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other metal levels are typical for a new component breaking in.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0098393	GFL0085650	---
Sample Date	Client Info	20 Mar 2024	09 Sep 2023	---
Machine Age	hrs	624	405	---
Oil Age	hrs	624	405	---
Oil Changed	Client Info	Changed	Changed	---
Sample Status		ABNORMAL	NORMAL	---

CONTAMINATION

method	limit/base	current	history1	history2	
Water	WC Method	>0.2	NEG	NEG	---
Glycol	WC Method		NEG	NEG	---

WEAR METALS

method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185m	>110	32	10	---
Chromium	ppm	ASTM D5185m	>4	<1	<1	---
Nickel	ppm	ASTM D5185m	>2	1	<1	---
Titanium	ppm	ASTM D5185m		0	0	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>25	6	3	---
Lead	ppm	ASTM D5185m	>45	11	0	---
Copper	ppm	ASTM D5185m	>85	▲ 106	<1	---
Tin	ppm	ASTM D5185m	>4	4	0	---
Vanadium	ppm	ASTM D5185m		0	0	---
Cadmium	ppm	ASTM D5185m		0	0	---

ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m	0	116	242	---
Barium	ppm	ASTM D5185m	0	0	0	---
Molybdenum	ppm	ASTM D5185m	60	79	102	---
Manganese	ppm	ASTM D5185m	0	<1	<1	---
Magnesium	ppm	ASTM D5185m	1010	800	706	---
Calcium	ppm	ASTM D5185m	1070	1234	1372	---
Phosphorus	ppm	ASTM D5185m	1150	761	723	---
Zinc	ppm	ASTM D5185m	1270	981	885	---
Sulfur	ppm	ASTM D5185m	2060	3006	2529	---

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>30	4	5	---
Sodium	ppm	ASTM D5185m		12	11	---
Potassium	ppm	ASTM D5185m	>20	5	0	---
Fuel	%	ASTM D3524	>5	1.9	<1.0	---

INFRA-RED

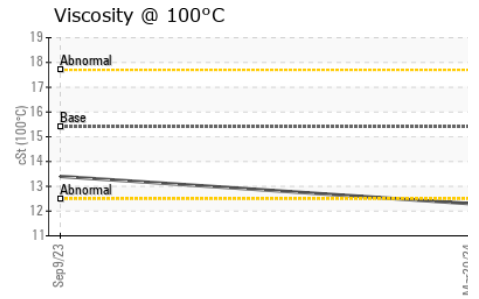
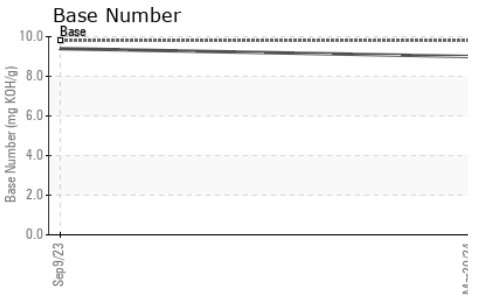
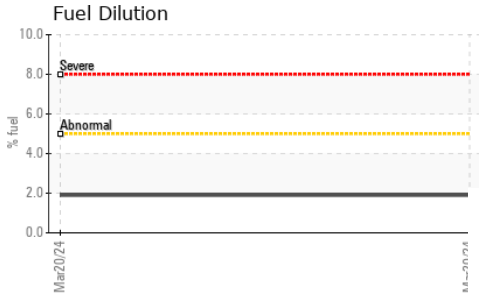
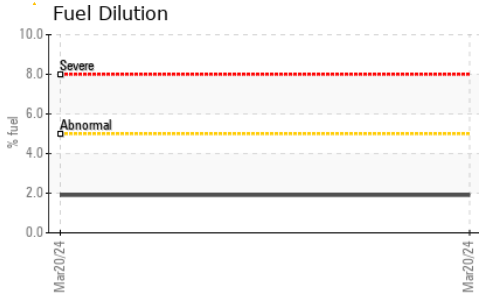
method	limit/base	current	history1	history2		
Soot %	%	*ASTM D7844	>3	0.1	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	6.1	5.4	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.3	21.4	---

FLUID DEGRADATION

method	limit/base	current	history1	history2		
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.9	15.0	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	9.0	9.4	---



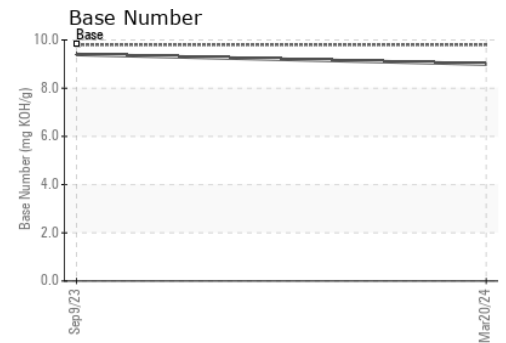
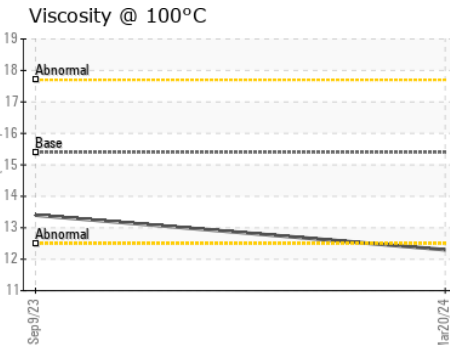
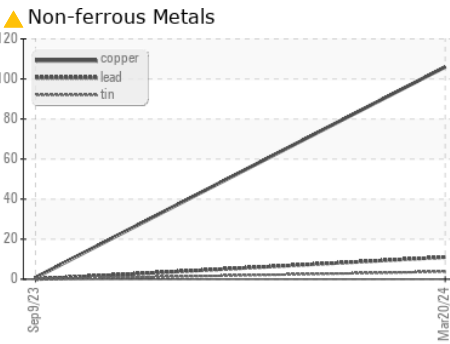
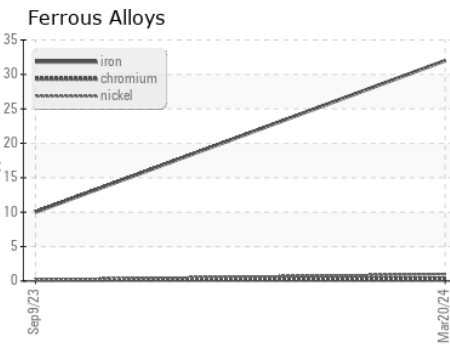
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	LIGHT	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	NONE	---
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	---
Free Water	scalar	*Visual		NEG	NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	12.3	13.4	---

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0098393
 Lab Number : 06132689
 Unique Number : 10952154
 Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 409 - Wood Island LF
 E10081 State Hwy M28
 Wetmore, MI
 US 49895
 Contact: Service Manager

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: