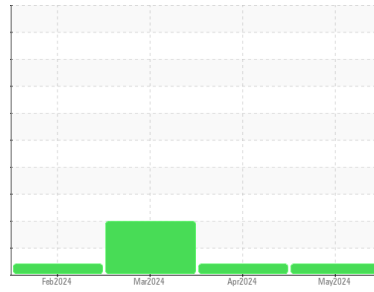




OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Machine Id

814018

Component

Diesel Engine

Fluid

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

DIAGNOSIS

Recommendation

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

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0119376	GFL0119405	GFL0115384
Sample Date	Client Info		08 May 2024	24 Apr 2024	21 Mar 2024
Machine Age	hrs	Client Info	618	538	358
Oil Age	hrs	Client Info	80	180	174
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ATTENTION	ATTENTION	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	34	30	24
Chromium	ppm	ASTM D5185m >20	1	<1	<1
Nickel	ppm	ASTM D5185m >4	8	6	7
Titanium	ppm	ASTM D5185m	<1	0	<1
Silver	ppm	ASTM D5185m >3	<1	<1	<1
Aluminum	ppm	ASTM D5185m >20	6	6	5
Lead	ppm	ASTM D5185m >40	<1	0	<1
Copper	ppm	ASTM D5185m >330	258	248	57
Tin	ppm	ASTM D5185m >15	4	3	<1
Vanadium	ppm	ASTM D5185m	<1	0	<1
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	204	235	272
Barium	ppm	ASTM D5185m 0	<1	1	<1
Molybdenum	ppm	ASTM D5185m 60	118	121	118
Manganese	ppm	ASTM D5185m 0	4	4	4
Magnesium	ppm	ASTM D5185m 1010	696	752	766
Calcium	ppm	ASTM D5185m 1070	1368	1424	1545
Phosphorus	ppm	ASTM D5185m 1150	733	732	793
Zinc	ppm	ASTM D5185m 1270	873	868	947
Sulfur	ppm	ASTM D5185m 2060	2681	2619	3109

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	60	59	▲ 61
Sodium	ppm	ASTM D5185m	<1	2	4
Potassium	ppm	ASTM D5185m >20	8	3	6

INFRA-RED

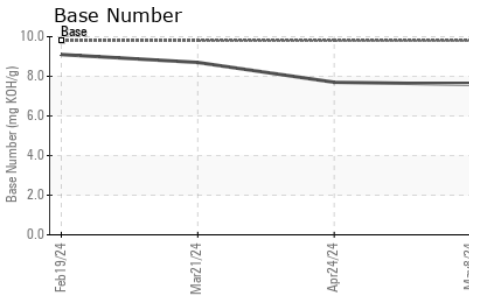
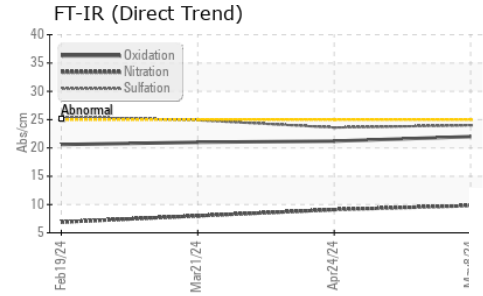
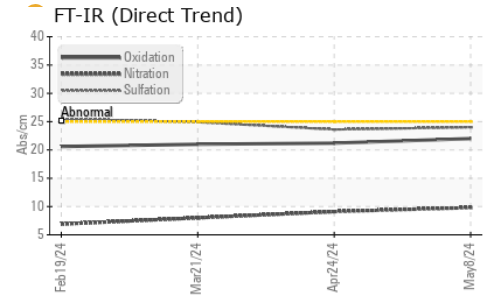
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.4	0.4	0.2
Nitration	Abs/cm	*ASTM D7624 >20	9.8	9.1	8.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	24.0	23.6	24.9

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	22.0	21.2	21.0
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.6	7.7	8.7



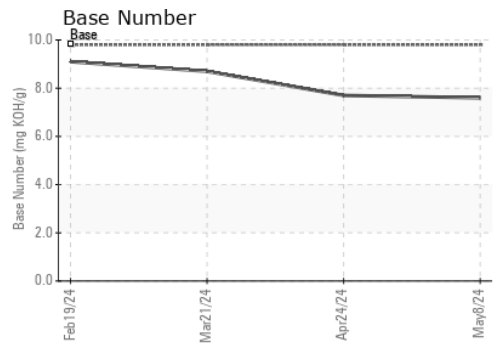
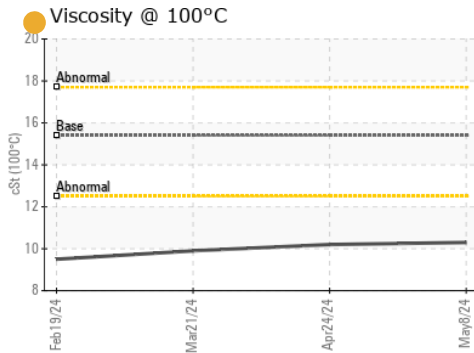
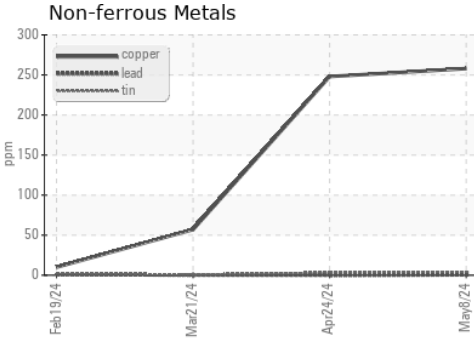
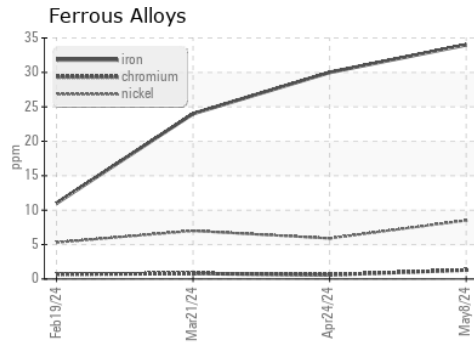
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	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	10.3	10.2

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0119376
Lab Number : 06178173
Unique Number : 11029499
Test Package : FLEET

GFL Environmental - 814 - Little Rock Hauling
 4005 Hwy 161 N.
 Little Rock, AR
 US 72117

Contact: Brad Koenig
 bkoenig@gflenv.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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F: