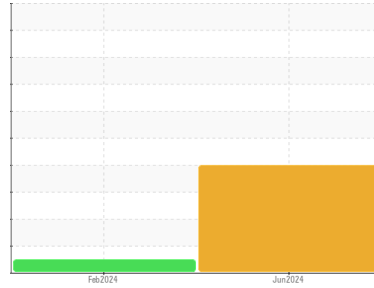




OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id

841M

Component

Diesel Engine

Fluid

PETRO CANADA DURON SHP 15W40 (3 GAL)

DIAGNOSIS

Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

Piston, ring and cylinder wear is indicated.

Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

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		GFL0124764	GFL0106677	---
Sample Date	Client Info		06 Jun 2024	14 Feb 2024	---
Machine Age	hrs	Client Info	8180	7262	---
Oil Age	hrs	Client Info	918	0	---
Oil Changed	Client Info		Changed	Changed	---
Sample Status			ABNORMAL	NORMAL	---

CONTAMINATION

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

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	▲ 146	18	---
Chromium	ppm	ASTM D5185m >20	▲ 20	<1	---
Nickel	ppm	ASTM D5185m >2	1	<1	---
Titanium	ppm	ASTM D5185m >2	<1	<1	---
Silver	ppm	ASTM D5185m >2	0	0	---
Aluminum	ppm	ASTM D5185m >25	● 7	3	---
Lead	ppm	ASTM D5185m >40	11	<1	---
Copper	ppm	ASTM D5185m >330	11	1	---
Tin	ppm	ASTM D5185m >15	3	0	---
Vanadium	ppm	ASTM D5185m	0	<1	---
Cadmium	ppm	ASTM D5185m	0	0	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	18	1	---
Barium	ppm	ASTM D5185m 0	0	0	---
Molybdenum	ppm	ASTM D5185m 60	45	62	---
Manganese	ppm	ASTM D5185m 0	2	0	---
Magnesium	ppm	ASTM D5185m 1010	530	1057	---
Calcium	ppm	ASTM D5185m 1070	1889	1117	---
Phosphorus	ppm	ASTM D5185m 1150	1019	1108	---
Zinc	ppm	ASTM D5185m 1270	1256	1365	---
Sulfur	ppm	ASTM D5185m 2060	3300	3124	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	▲ 30	5	---
Sodium	ppm	ASTM D5185m	31	2	---
Potassium	ppm	ASTM D5185m >20	6	1	---

INFRA-RED

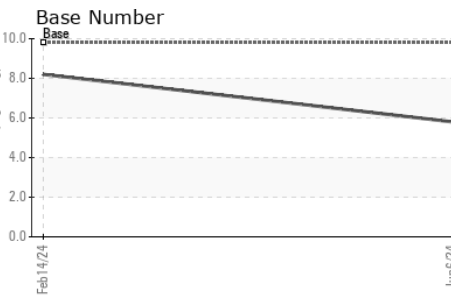
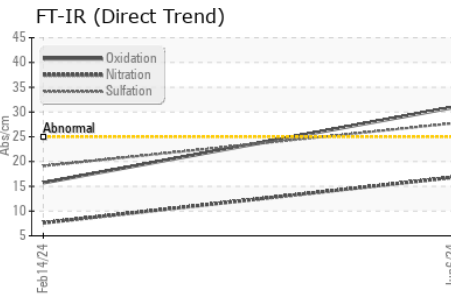
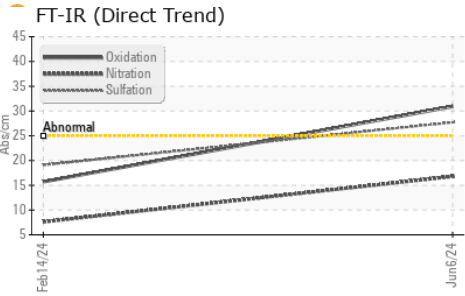
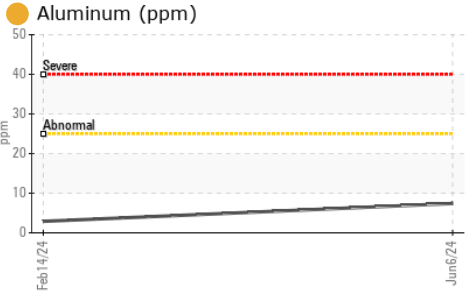
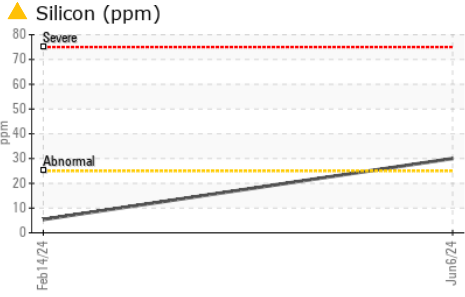
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.8	0.2	---
Nitration	Abs/cm	*ASTM D7624 >20	16.8	7.6	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	27.7	19.1	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	30.9	15.7	---
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	5.8	8.2	---



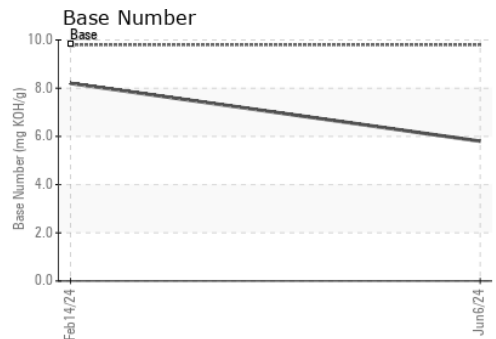
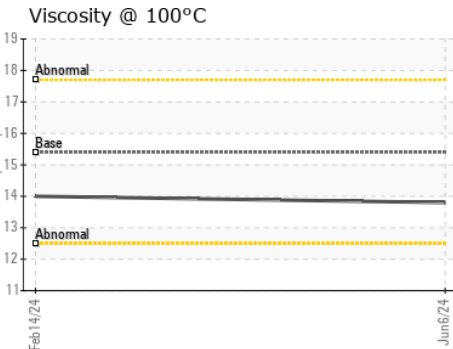
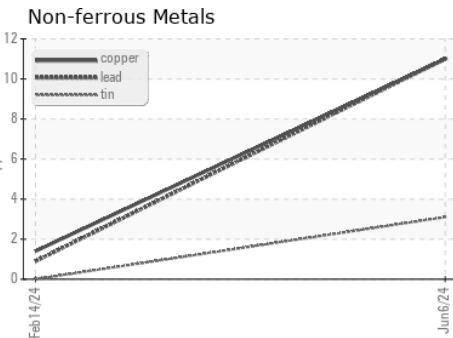
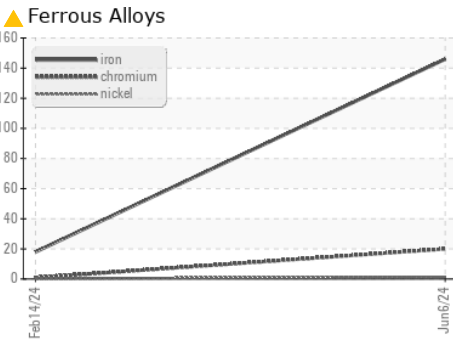
OIL ANALYSIS REPORT



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	13.8	14.0	---

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0124764
Lab Number : **06224347**
Unique Number : 11102544
Test Package : FLEET

Received : 01 Jul 2024
Tested : 02 Jul 2024
Diagnosed : 02 Jul 2024 - Jonathan Hester

GFL Environmental - 405 - Arbor Hills
 7811 Chubb Rd
 NORTHVILLE, MI
 US 48168

Contact: Anthony Hopkins
 ahopkins@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)

T:
F: