

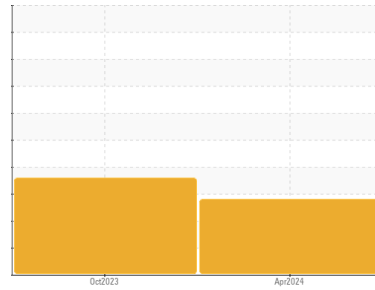


OIL ANALYSIS REPORT



Area
GFL035
 Machine Id
934046
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (42 QTS)

Sample Rating Trend



DIAGNOSIS

Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. Tests indicate that there is no fuel present 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	GFL0116427	GFL0085241	---
Sample Date	Client Info	01 Apr 2024	19 Oct 2023	---
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	600	600
Oil Changed	Client Info	Not Chngd	Changed	---
Sample Status		ABNORMAL	ABNORMAL	---

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	>120	39	56
Chromium	ppm	ASTM D5185m	>20	<1	1
Nickel	ppm	ASTM D5185m	>5	<1	2
Titanium	ppm	ASTM D5185m	>2	0	<1
Silver	ppm	ASTM D5185m	>2	0	0
Aluminum	ppm	ASTM D5185m	>20	6	9
Lead	ppm	ASTM D5185m	>40	1	1
Copper	ppm	ASTM D5185m	>330	10	22
Tin	ppm	ASTM D5185m	>15	0	2
Vanadium	ppm	ASTM D5185m		<1	<1
Cadmium	ppm	ASTM D5185m		0	<1

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	27	4
Barium	ppm	ASTM D5185m	0	6	4
Molybdenum	ppm	ASTM D5185m	60	51	54
Manganese	ppm	ASTM D5185m	0	4	14
Magnesium	ppm	ASTM D5185m	1010	796	782
Calcium	ppm	ASTM D5185m	1070	1233	1085
Phosphorus	ppm	ASTM D5185m	1150	737	743
Zinc	ppm	ASTM D5185m	1270	921	931
Sulfur	ppm	ASTM D5185m	2060	2756	2631

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	▲ 89	▲ 36
Sodium	ppm	ASTM D5185m		5	6
Potassium	ppm	ASTM D5185m	>20	29	17
Fuel	%	ASTM D3524	>3.0	0.1	<1.0

INFRA-RED

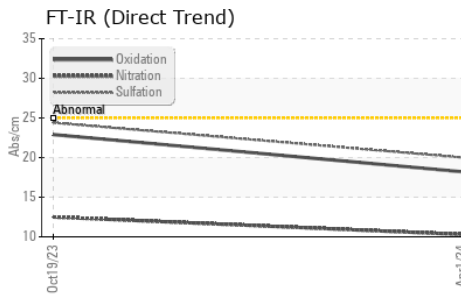
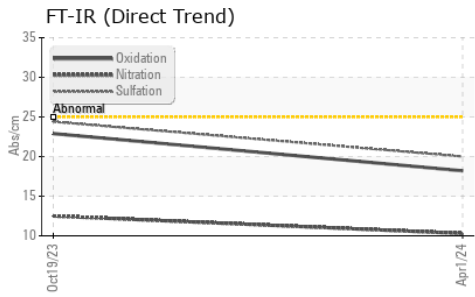
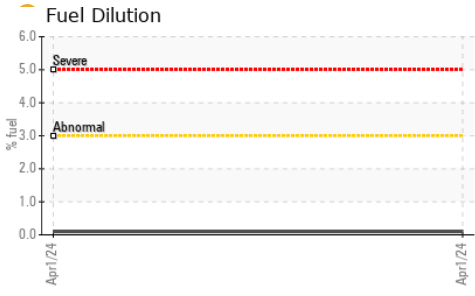
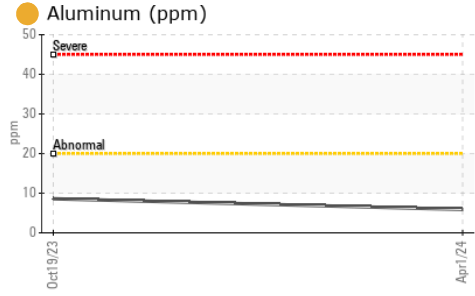
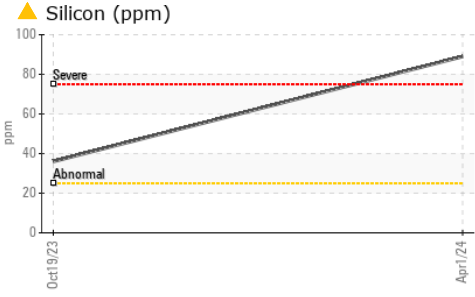
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>4	0.1	0
Nitration	Abs/cm	*ASTM D7624	>20	10.3	12.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.0	24.4

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.2	22.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	5.9	▲ 3.2



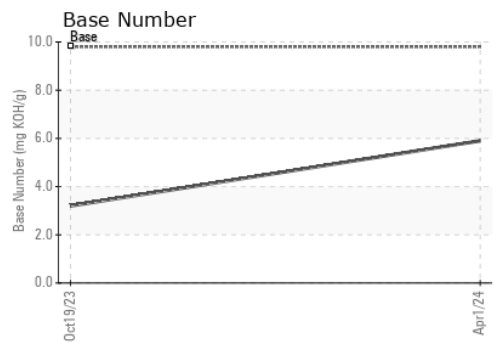
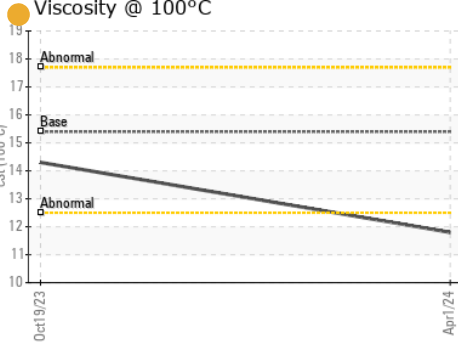
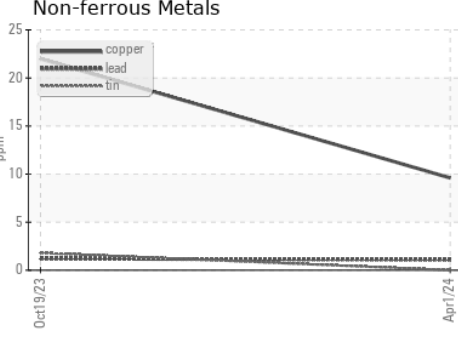
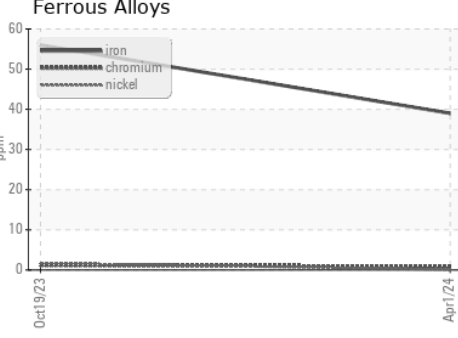
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	● 11.8	14.3	---

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0116427 **Received** : 03 Apr 2024
Lab Number : 06137227 **Tested** : 08 Apr 2024
Unique Number : 10956692 **Diagnosed** : 08 Apr 2024 - Sean Felton
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 035 - Greensboro
 1236 Elon Place
 High Point, NC
 US 27263
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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)