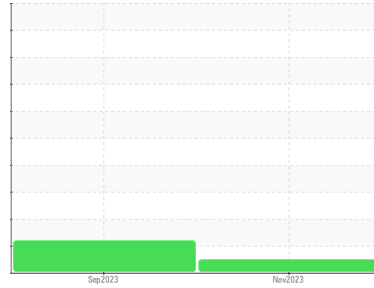




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
713078
 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

All component wear rates are normal.

Contamination

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		GFL0096585	GFL0046383	---
Sample Date	Client Info		29 Nov 2023	19 Sep 2023	---
Machine Age	hrs	Client Info	613	0	---
Oil Age	hrs	Client Info	600	0	---
Oil Changed	Client Info		Changed	Not Changd	---
Sample Status			NORMAL	ABNORMAL	---

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<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 >90	39	41	---
Chromium	ppm	ASTM D5185m >20	<1	3	---
Nickel	ppm	ASTM D5185m >2	0	0	---
Titanium	ppm	ASTM D5185m >2	0	0	---
Silver	ppm	ASTM D5185m >2	0	0	---
Aluminum	ppm	ASTM D5185m >20	3	5	---
Lead	ppm	ASTM D5185m >40	0	0	---
Copper	ppm	ASTM D5185m >330	13	<1	---
Tin	ppm	ASTM D5185m >15	0	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	44	<1	---
Barium	ppm	ASTM D5185m 0	6	0	---
Molybdenum	ppm	ASTM D5185m 60	42	60	---
Manganese	ppm	ASTM D5185m 0	5	<1	---
Magnesium	ppm	ASTM D5185m 1010	543	934	---
Calcium	ppm	ASTM D5185m 1070	1498	1096	---
Phosphorus	ppm	ASTM D5185m 1150	670	985	---
Zinc	ppm	ASTM D5185m 1270	874	1195	---
Sulfur	ppm	ASTM D5185m 2060	2376	3549	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	19	22	---
Sodium	ppm	ASTM D5185m	2	▲ 136	---
Potassium	ppm	ASTM D5185m >20	8	8	---

INFRA-RED

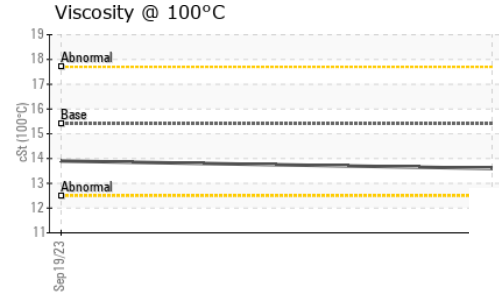
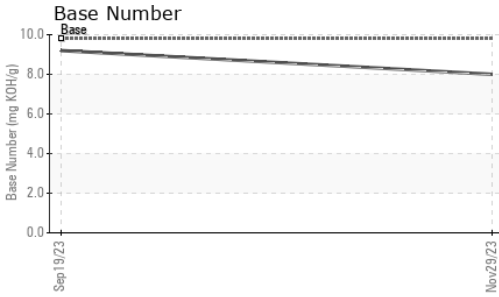
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	0.5	0.2	---
Nitration	Abs/cm	*ASTM D7624 >20	10.2	5.9	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	23.1	18.2	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	23.8	13.6	---
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	8.0	9.2	---



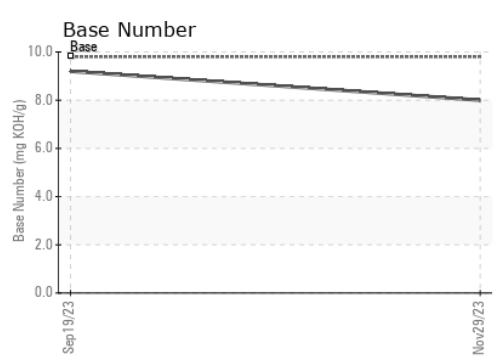
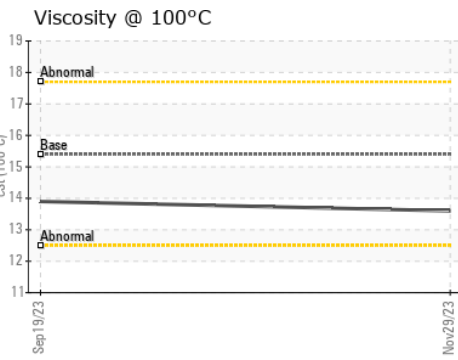
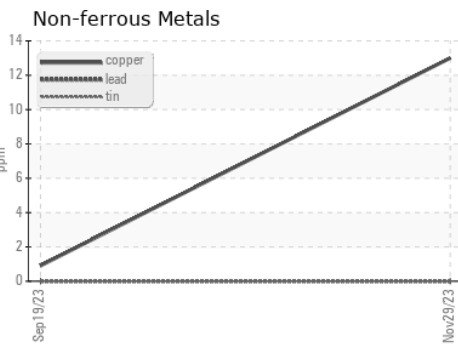
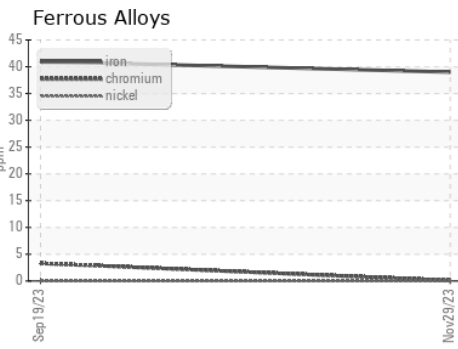
OIL ANALYSIS REPORT



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	13.6	13.9

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0096585 **Received** : 06 Dec 2023
Lab Number : **06026110** **Diagnosed** : 07 Dec 2023
Unique Number : 10775901 **Diagnostician** : Don Baldrige
Test Package : FLEET

GFL Environmental - 465 - Pontiac
 888 Baldwin
 Pontiac, MI
 US 48340
 Contact: Ricky Matthews
 rickymathews@gflenv.com
 T: (586)825-9514
 F:

Certificate L2367
 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)