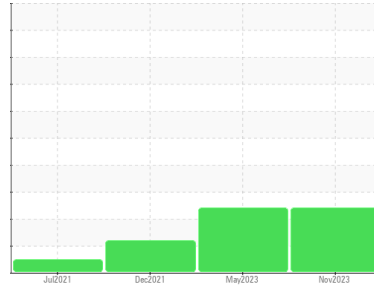




PROBLEM SUMMARY

Sample Rating Trend

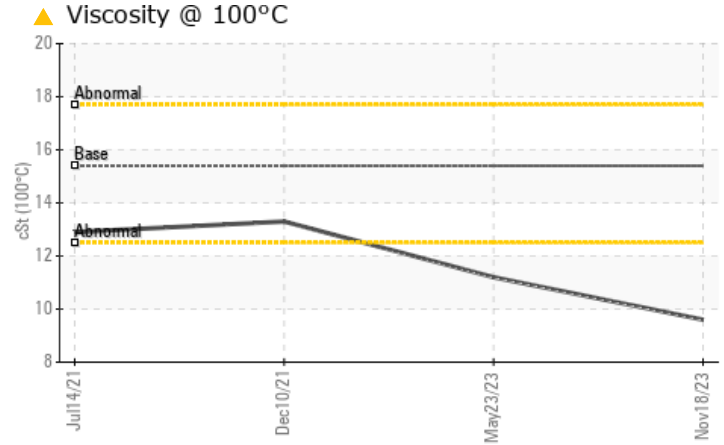
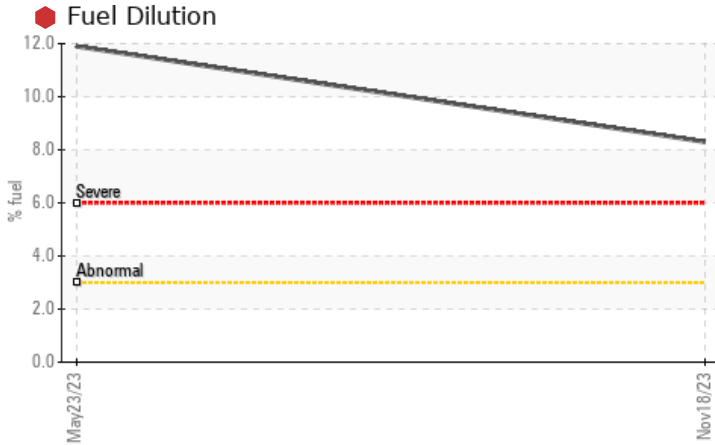


FUEL



Machine Id
547M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	ATTENTION
Fuel	%	ASTM D3524	>3.0	8.3	11.9	<1.0
Visc @ 100°C	cSt	ASTM D445	15.4	9.6	11.2	13.3

Customer Id: GFL415
Sample No.: GFL0089168
Lab Number: 06013632
Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

23 May 2023 Diag: Wes Davis

FUEL



We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

[view report](#)



10 Dec 2021 Diag: Jonathan Hester

GLYCOL



Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. Sodium and/or potassium levels are high. Test for glycol is negative. 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.

[view report](#)



14 Jul 2021 Diag: Don Baldrige

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

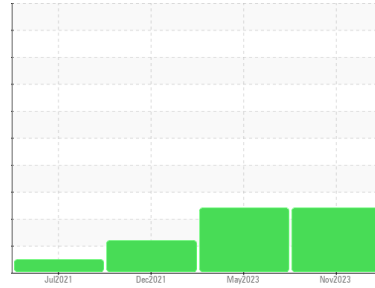
[view report](#)





OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
547M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a high amount of fuel present in the oil.

Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0089168	GFL0081377	GFL0039718
Sample Date	Client Info		18 Nov 2023	23 May 2023	10 Dec 2021
Machine Age	hrs	Client Info	14779	14124	12499
Oil Age	hrs	Client Info	14124	12499	11778
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			SEVERE	SEVERE	ATTENTION

CONTAMINATION

	method	limit/base	current	history1	history2
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 >90	88	89	75
Chromium	ppm	ASTM D5185m >20	5	4	5
Nickel	ppm	ASTM D5185m >2	1	1	<1
Titanium	ppm	ASTM D5185m >2	<1	2	0
Silver	ppm	ASTM D5185m >2	0	<1	0
Aluminum	ppm	ASTM D5185m >20	6	7	4
Lead	ppm	ASTM D5185m >40	4	5	4
Copper	ppm	ASTM D5185m >330	3	4	7
Tin	ppm	ASTM D5185m >15	1	2	2
Antimony	ppm	ASTM D5185m	---	---	0
Vanadium	ppm	ASTM D5185m	0	<1	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	0	5	3
Barium	ppm	ASTM D5185m 0	9	0	1
Molybdenum	ppm	ASTM D5185m 60	44	51	57
Manganese	ppm	ASTM D5185m 0	1	1	1
Magnesium	ppm	ASTM D5185m 1010	634	821	865
Calcium	ppm	ASTM D5185m 1070	757	948	1187
Phosphorus	ppm	ASTM D5185m 1150	713	827	957
Zinc	ppm	ASTM D5185m 1270	886	1046	1120
Sulfur	ppm	ASTM D5185m 2060	2249	2702	2368

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	8	6	10
Sodium	ppm	ASTM D5185m	5	8	▲ 96
Potassium	ppm	ASTM D5185m >20	5	3	6
Fuel	%	ASTM D3524 >3.0	● 8.3	● 11.9	<1.0

INFRA-RED

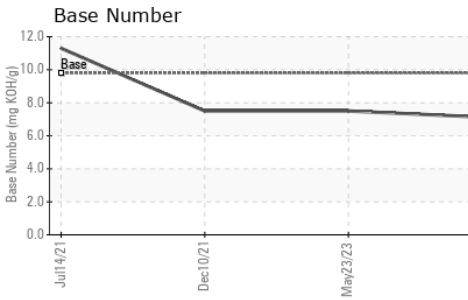
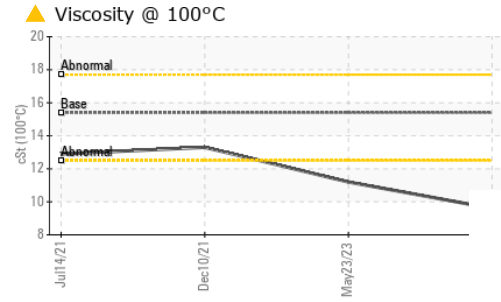
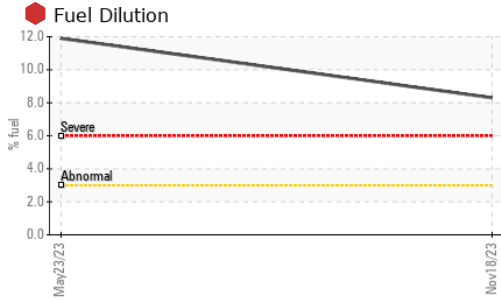
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	2.3	1.7	1.3
Nitration	Abs/cm	*ASTM D7624 >20	16.1	14.5	14
Sulfation	Abs/.1mm	*ASTM D7415 >30	27.5	24.0	24.2

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	29.0	23.6	23.5
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.1	7.5	7.5



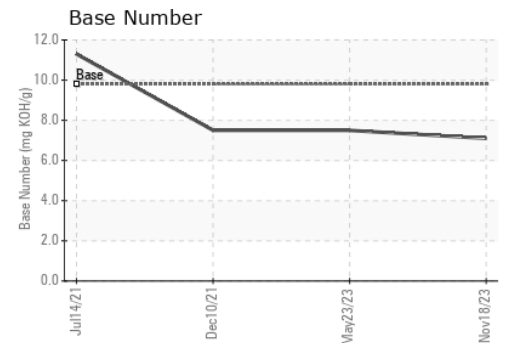
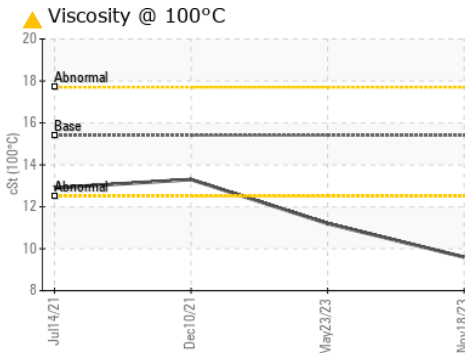
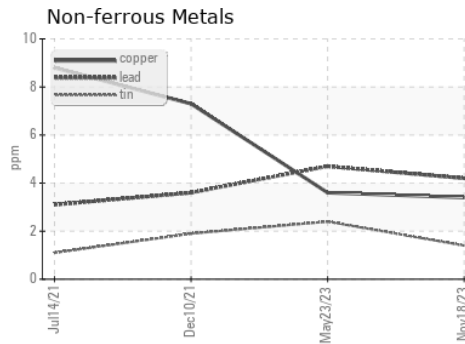
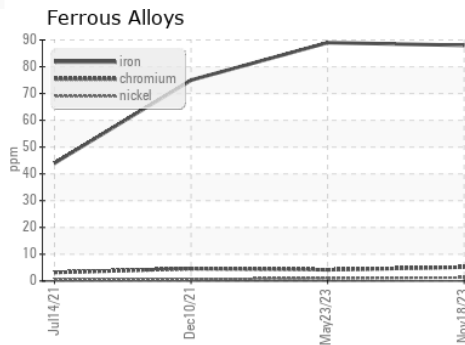
OIL ANALYSIS REPORT



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	▲ 9.6	▲ 11.2

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0089168 Received : 21 Nov 2023
 Lab Number : 06013632 Diagnosed : 24 Nov 2023
 Unique Number : 10752776 Diagnostician : Jonathan Hester
 Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 415 - Michigan East
 6200 Elmridge
 Sterling Heights, MI
 US 48313
 Contact: Frank Wolak
 fwolak@gflenv.com
 T: (586)825-9514
 F:

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)