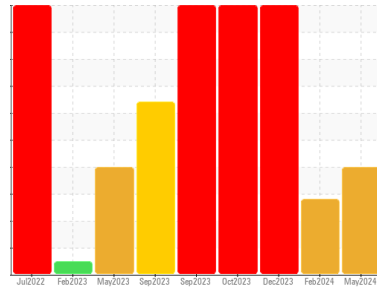




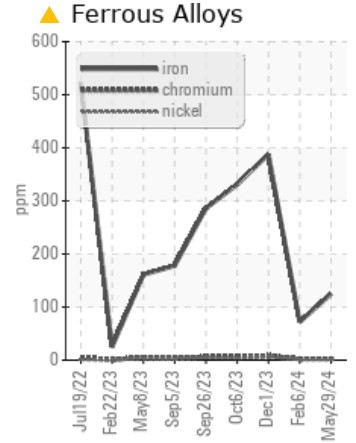
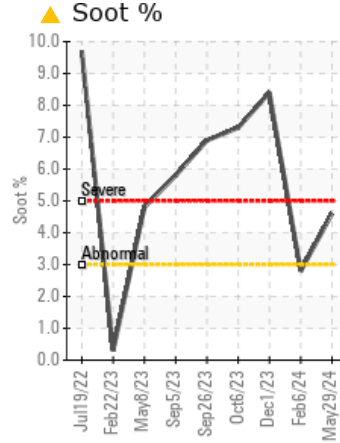
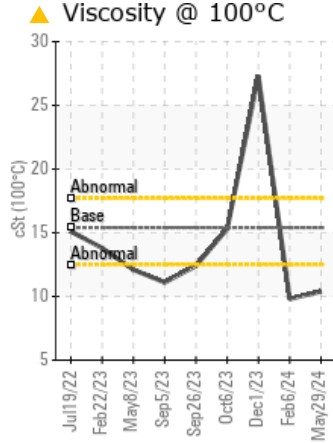
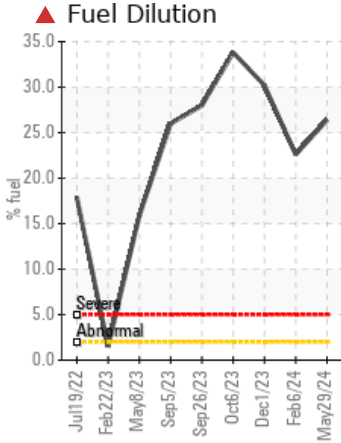
# PROBLEM SUMMARY

Machine Id  
**722011-1169**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (22 QTS)**

Sample Rating Trend



## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

We advise that you check the fuel injection system. We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. (Customer Sample Comment: Sampled oil)

## PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	SEVERE
Iron	ppm	ASTM D5185m	>100	▲ 125	72	▲ 388
Fuel	%	ASTM D3524	>2.0	▲ 26.4	▲ 22.6	▲ 30.2
Soot %	%	*ASTM D7844	>3	▲ 4.6	2.8	▲ 8.4
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 10.4	▲ 9.8	▲ 27.3

Customer Id: GFL622  
 Sample No.: GFL0103061  
 Lab Number: 06198940  
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Don Baldrige +1  
[don.b505@comcast.net](mailto:don.b505@comcast.net)

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

## RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Change Filter	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Combustion	---	---	?	We advise that you check for faulty combustion, plugged air filters, or aftercoolers.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

## HISTORICAL DIAGNOSIS

### 06 Feb 2024 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](#)



### 01 Dec 2023 Diag: Jonathan Hester

#### WEAR



We advise that you check the fuel injection system. We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend that you drain the oil and perform a filter service on this component if not already done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value. Cylinder, crank, or cam shaft wear is indicated. There is a high amount of fuel present in the oil. There is an abnormal amount of solids and carbon present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

[view report](#)



### 06 Oct 2023 Diag: Don Baldrige

#### WEAR



We advise that you check the fuel injection system. We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend that you drain the oil and perform a filter service on this component if not already done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value. Cylinder, crank, or cam shaft wear is indicated. There is a high amount of fuel present in the oil. There is an abnormal amount of solids and carbon present in the oil. The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

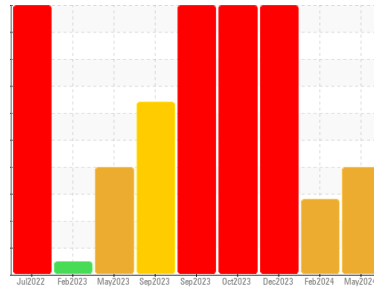
[view report](#)





# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**722011-1169**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (22 QTS)**

## DIAGNOSIS

### ▲ Recommendation

We advise that you check the fuel injection system. We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. ( Customer Sample Comment: Sampled oil )

### ▲ Wear

Cylinder, crank, or cam shaft wear is indicated.

### ▲ Contamination

There is a high amount of fuel present in the oil. There is an abnormal amount of solids and carbon present in the oil.

### ▲ Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0103061</b>	GFL0110358	GFL0102787
Sample Date	Client Info	<b>29 May 2024</b>	06 Feb 2024	01 Dec 2023
Machine Age	hrs	<b>12775</b>	12522	12335
Oil Age	hrs	<b>198</b>	631	12275
Oil Changed	Client Info	<b>Not Chngd</b>	Changed	Not Chngd
Sample Status		<b>SEVERE</b>	SEVERE	SEVERE

## CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.2	<b>NEG</b>	NEG	NEG
Glycol	WC Method	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	<b>▲ 125</b>	72	<b>▲ 388</b>
Chromium	ppm ASTM D5185m >20	<b>2</b>	2	9
Nickel	ppm ASTM D5185m >4	<b>1</b>	1	5
Titanium	ppm ASTM D5185m	<b>0</b>	0	0
Silver	ppm ASTM D5185m >3	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >20	<b>5</b>	7	15
Lead	ppm ASTM D5185m >40	<b>1</b>	1	6
Copper	ppm ASTM D5185m >330	<b>3</b>	8	4
Tin	ppm ASTM D5185m >15	<b>0</b>	<1	2
Vanadium	ppm ASTM D5185m	<b>&lt;1</b>	0	<1
Cadmium	ppm ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>0</b>	4	9
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>51</b>	53	66
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	<1	3
Magnesium	ppm ASTM D5185m 1010	<b>662</b>	744	628
Calcium	ppm ASTM D5185m 1070	<b>793</b>	838	745
Phosphorus	ppm ASTM D5185m 1150	<b>759</b>	817	710
Zinc	ppm ASTM D5185m 1270	<b>868</b>	962	836
Sulfur	ppm ASTM D5185m 2060	<b>2337</b>	2400	1978

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>0</b>	4	12
Sodium	ppm ASTM D5185m	<b>1</b>	2	2
Potassium	ppm ASTM D5185m >20	<b>0</b>	1	<1
Fuel	% ASTM D3524 >2.0	<b>▲ 26.4</b>	<b>▲ 22.6</b>	<b>▲ 30.2</b>

## INFRA-RED

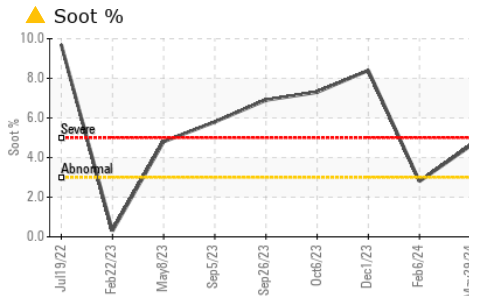
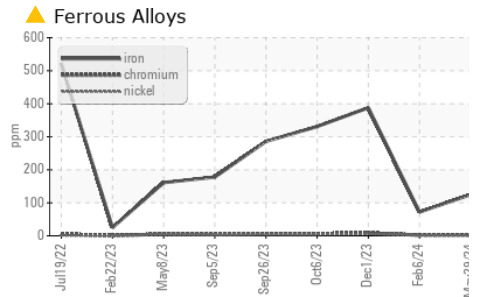
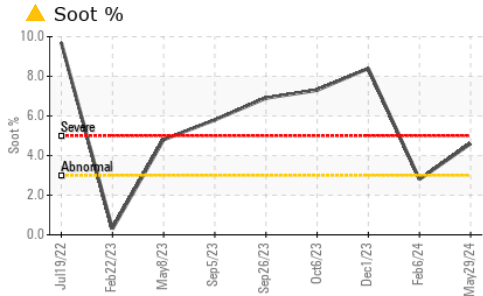
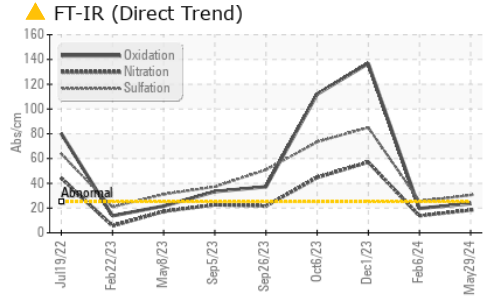
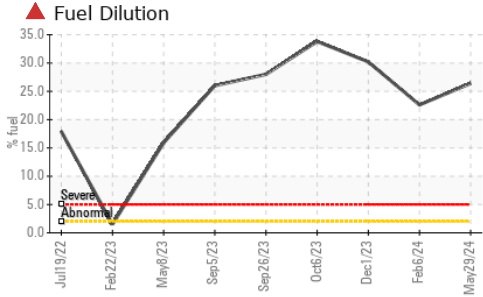
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>▲ 4.6</b>	2.8	<b>▲ 8.4</b>
Nitration	Abs/cm *ASTM D7624 >20	<b>18.3</b>	13.7	57.1
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>30.4</b>	25.5	85.0

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>23.6</b>	19.7	136.8
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>6.5</b>	8.4	<b>▲ 0.0</b>



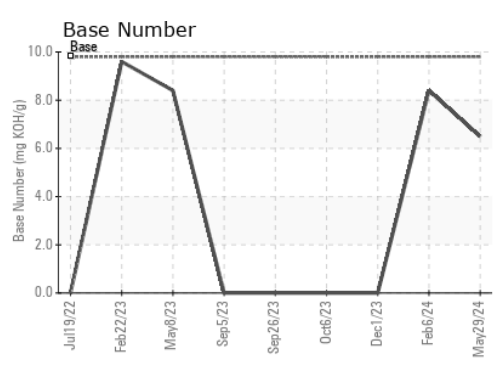
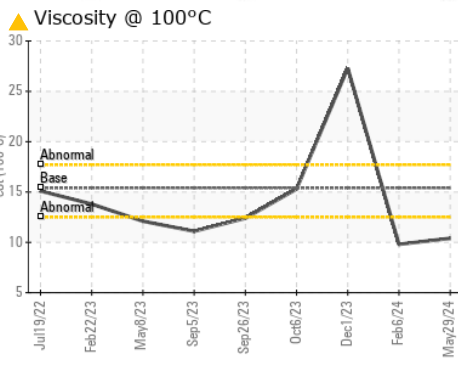
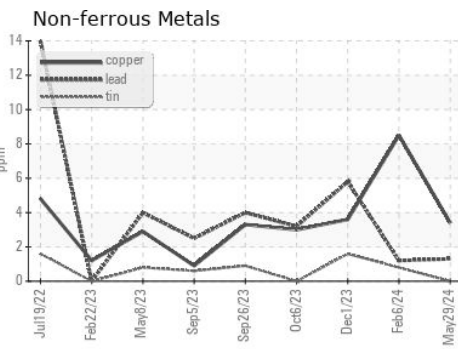
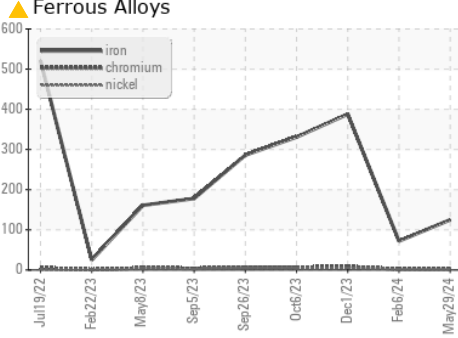
# OIL ANALYSIS REPORT



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	▲ 10.4	▲ 9.8

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0103061  
**Lab Number** : 06198940  
**Unique Number** : 11061063  
**Test Package** : FLEET ( Additional Tests: PercentFuel )  
**Received** : 04 Jun 2024  
**Tested** : 06 Jun 2024  
**Diagnosed** : 06 Jun 2024 - Don Baldrige

**GFL Environmental - 622 - Traverse City Hauling**  
 160 Hughes Dr  
 Traverse City, MI  
 US 49686  
 Contact: GARY BREWER

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)