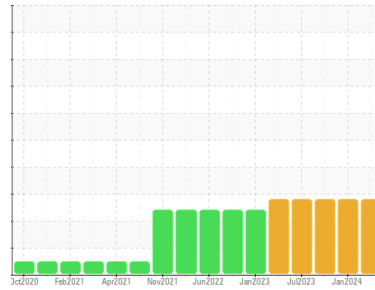




# PROBLEM SUMMARY

Sample Rating Trend



FUEL

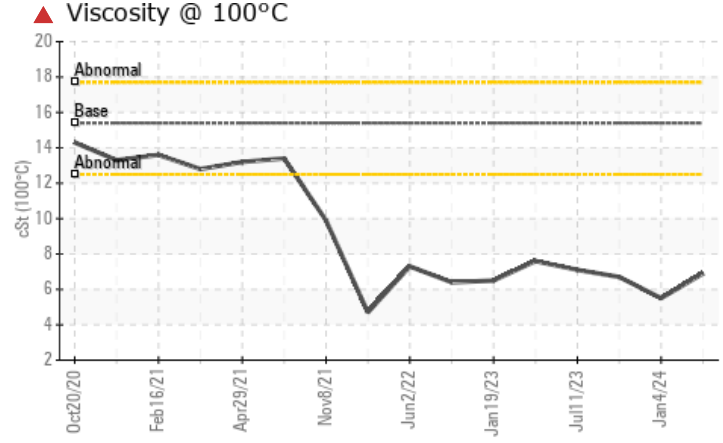
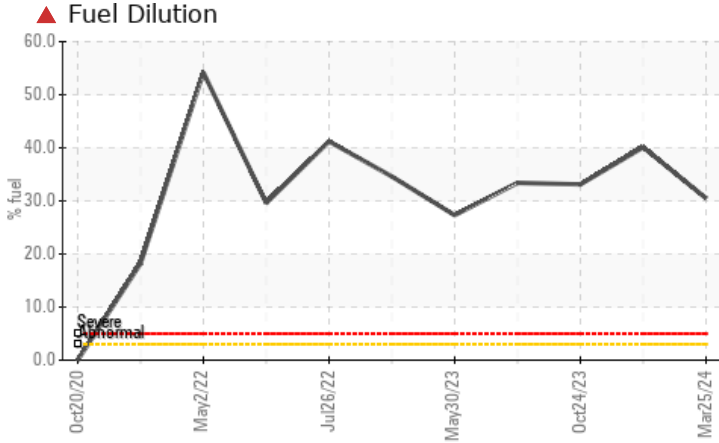


Machine Id  
**427023-442**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (--- LTR)**

## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

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.

## PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	SEVERE
Fuel	%	ASTM D3524	>3.0	▲ 30.5	▲ 40.1	▲ 33.1
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 6.9	▲ 5.5	▲ 6.7

Customer Id: GFL650  
Sample No.: GFL0077794  
Lab Number: 06135485  
Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Wes Davis +1 905-569-8600 x223  
[wesd@wearcheck.ca](mailto:wesd@wearcheck.ca)

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
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

### FUEL



#### 04 Jan 2024 Diag: Wes Davis

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](#)



### FUEL



#### 24 Oct 2023 Diag: Wes Davis

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](#)



### FUEL



#### 11 Jul 2023 Diag: Wes Davis

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.

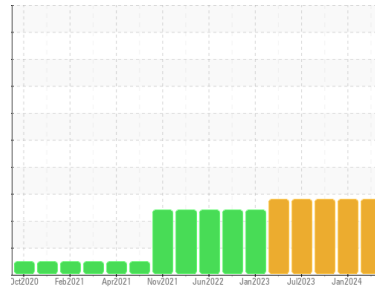
[view report](#)





# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**427023-442**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (--- LTR)**

## DIAGNOSIS

### ▲ Recommendation

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.

### Wear

All component wear rates are normal.

### ▲ Contamination

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

### ▲ Fluid Condition

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.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0077794</b>	GFL0077769	GFL0077805
Sample Date	Client Info	<b>25 Mar 2024</b>	04 Jan 2024	24 Oct 2023
Machine Age	hrs	<b>38070</b>	515487	507407
Oil Age	hrs	<b>0</b>	0	0
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>SEVERE</b>	SEVERE	SEVERE

## CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method	<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 >120	<b>4</b>	8	5
Chromium	ppm	ASTM D5185m >20	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185m >5	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m >2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>&lt;1</b>	2	1
Lead	ppm	ASTM D5185m >40	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m >330	<b>3</b>	10	4
Tin	ppm	ASTM D5185m >15	<b>0</b>	1	<1
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	<b>7</b>	4	4
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>42</b>	36	39
Manganese	ppm	ASTM D5185m 0	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>683</b>	590	654
Calcium	ppm	ASTM D5185m 1070	<b>773</b>	657	704
Phosphorus	ppm	ASTM D5185m 1150	<b>768</b>	662	738
Zinc	ppm	ASTM D5185m 1270	<b>856</b>	781	873
Sulfur	ppm	ASTM D5185m 2060	<b>2560</b>	1930	2063

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	<b>3</b>	5	5
Sodium	ppm	ASTM D5185m	<b>&lt;1</b>	2	<1
Potassium	ppm	ASTM D5185m >20	<b>0</b>	0	<1
Fuel	%	ASTM D3524 >3.0	<b>▲ 30.5</b>	▲ 40.1	▲ 33.1

## INFRA-RED

method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >4	<b>0.3</b>	0.5	0.4
Nitration	Abs/cm	*ASTM D7624 >20	<b>7.9</b>	8.9	8.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>16.2</b>	17.0	16.5

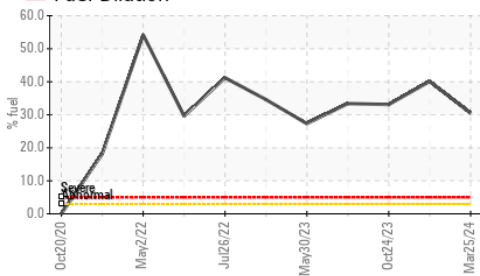
## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>12.7</b>	13.4	12.6
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>7.5</b>	5.2	6.0

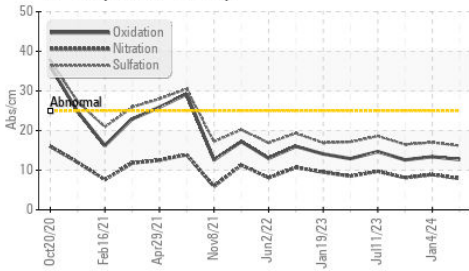


# OIL ANALYSIS REPORT

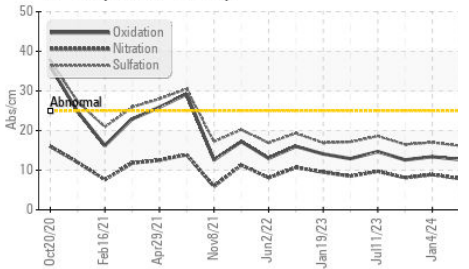
## ▲ Fuel Dilution



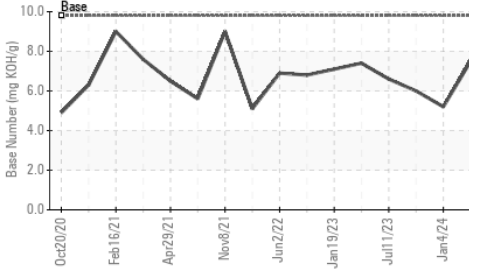
## FT-IR (Direct Trend)



## FT-IR (Direct Trend)



## Base Number



## VISUAL

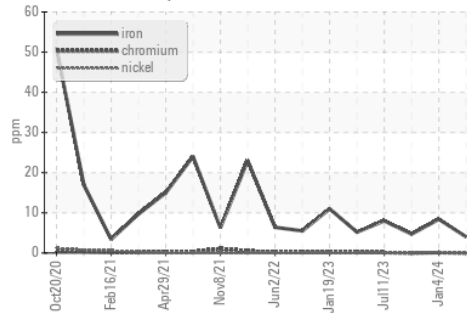
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*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

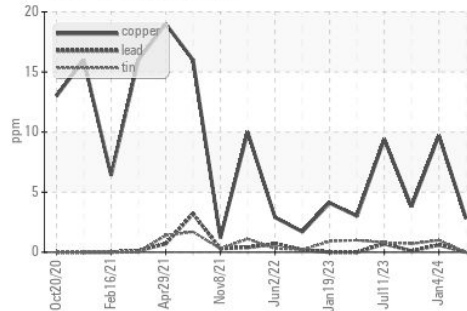
	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4 ▲ 6.9	▲ 5.5	▲ 6.7

## GRAPHS

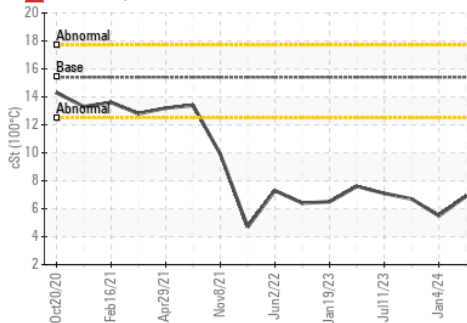
### Ferrous Alloys



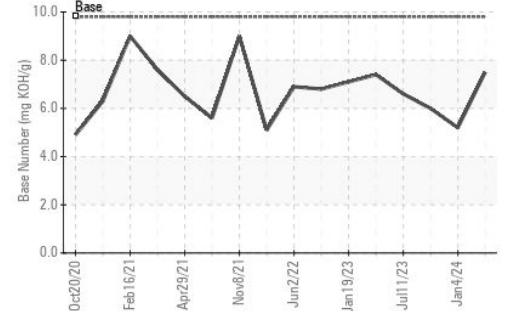
### Non-ferrous Metals



## ▲ Viscosity @ 100°C



## Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0077794

Lab Number : 06135485

Unique Number : 10954950

Test Package : FLEET ( Additional Tests: PercentFuel )

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)

Received : 01 Apr 2024

Tested : 04 Apr 2024

Diagnosed : 04 Apr 2024 - Wes Davis

GFL Environmental - 650 - West Point Hauling

7825 Parham Landing Road

West Point, VA

US 23181

Contact: Jason Smith

jasonsmith@gflenv.com

T:

F: