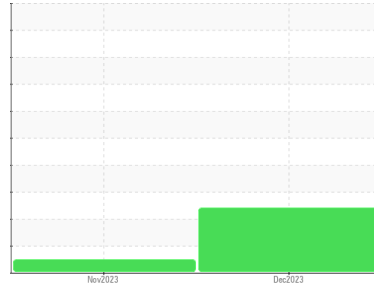




# PROBLEM SUMMARY

Sample Rating Trend



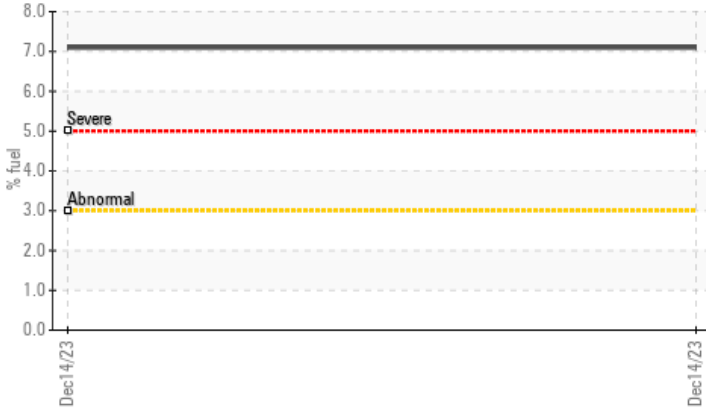
FUEL



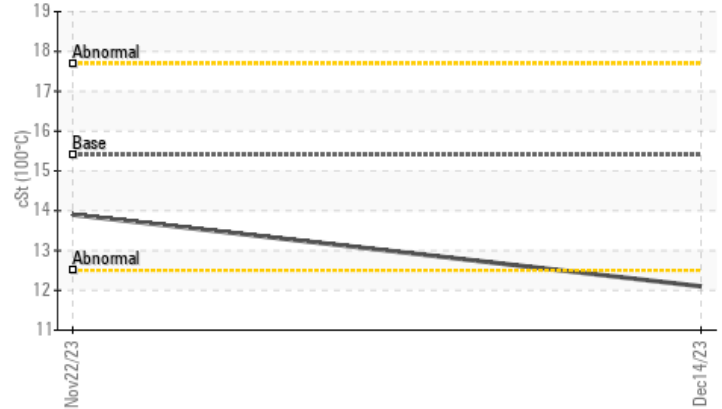
Machine Id  
**713077**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## COMPONENT CONDITION SUMMARY

Fuel Dilution



Viscosity @ 100°C



## 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	NORMAL	---
Fuel	%	ASTM D3524	>3.0	7.1	<1.0	---
Visc @ 100°C	cSt	ASTM D445	15.4	12.1	13.9	---

Customer Id: GFL415  
 Sample No.: GFL0105584  
 Lab Number: 06037274  
 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

22 Nov 2023 Diag: Wes Davis

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





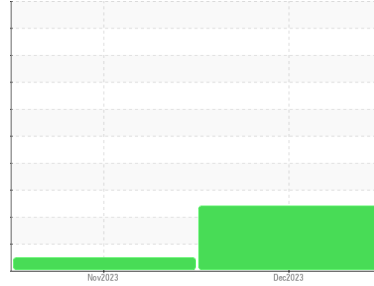
# OIL ANALYSIS REPORT

Sample Rating Trend

FUEL



Machine Id  
**713077**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**



## 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>GFL0105584</b>	GFL0089085	---
Sample Date	Client Info		<b>14 Dec 2023</b>	22 Nov 2023	---
Machine Age	hrs	Client Info	<b>1343</b>	1158	---
Oil Age	hrs	Client Info	<b>1158</b>	0	---
Oil Changed	Client Info		<b>Changed</b>	Not Changd	---
Sample Status			<b>SEVERE</b>	NORMAL	---

## CONTAMINATION

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

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	<b>12</b>	12	---
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	---
Nickel	ppm	ASTM D5185m >5	<b>&lt;1</b>	2	---
Titanium	ppm	ASTM D5185m >2	<b>0</b>	0	---
Silver	ppm	ASTM D5185m >2	<b>0</b>	<1	---
Aluminum	ppm	ASTM D5185m >20	<b>2</b>	2	---
Lead	ppm	ASTM D5185m >40	<b>0</b>	<1	---
Copper	ppm	ASTM D5185m >330	<b>&lt;1</b>	2	---
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	---
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	---
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	---

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>5</b>	3	---
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185m 60	<b>51</b>	55	---
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	---
Magnesium	ppm	ASTM D5185m 1010	<b>840</b>	902	---
Calcium	ppm	ASTM D5185m 1070	<b>933</b>	1058	---
Phosphorus	ppm	ASTM D5185m 1150	<b>917</b>	1081	---
Zinc	ppm	ASTM D5185m 1270	<b>1153</b>	1246	---
Sulfur	ppm	ASTM D5185m 2060	<b>2777</b>	2930	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>4</b>	3	---
Sodium	ppm	ASTM D5185m	<b>61</b>	4	---
Potassium	ppm	ASTM D5185m >20	<b>4</b>	3	---
Fuel	%	ASTM D3524 >3.0	<b>7.1</b>	<1.0	---

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>0.5</b>	0.4	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>9.4</b>	8.5	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>20.0</b>	20.1	---

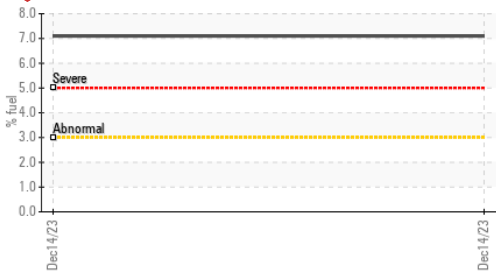
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>16.3</b>	16.9	---
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>8.2</b>	8.0	---

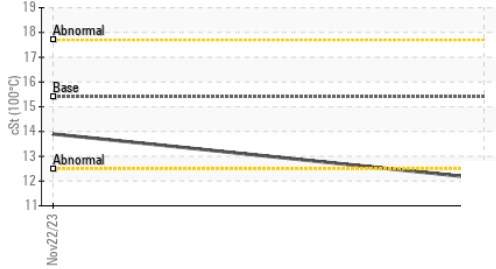


# OIL ANALYSIS REPORT

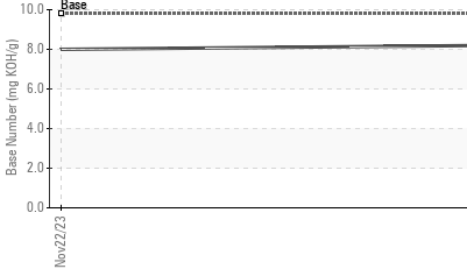
### Fuel Dilution



### Viscosity @ 100°C



### Base Number

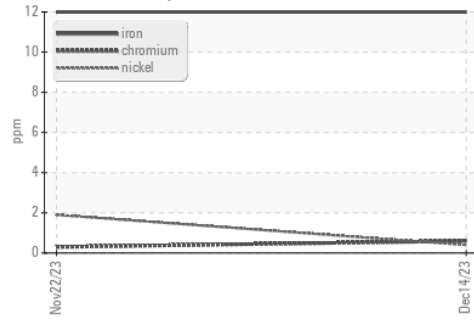


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar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

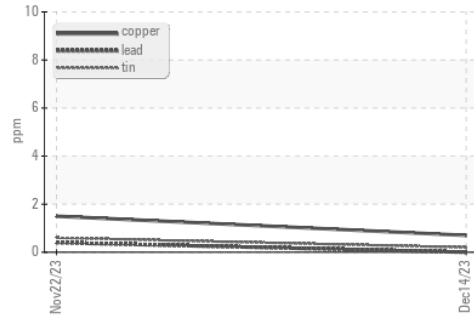
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 12.1	13.9

### GRAPHS

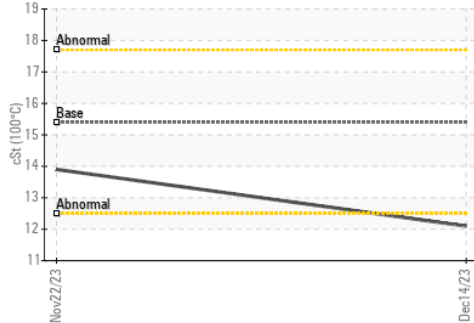
#### Ferrous Alloys



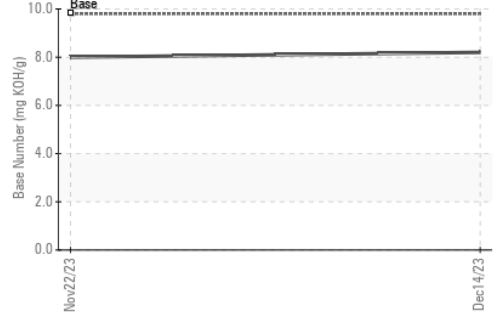
#### Non-ferrous Metals



### Viscosity @ 100°C



### Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0105584      **Received** : 18 Dec 2023  
**Lab Number** : 06037274      **Diagnosed** : 21 Dec 2023  
**Unique Number** : 10792503      **Diagnostician** : Wes Davis  
**Test Package** : FLEET ( Additional Tests: FuelDilution, 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)