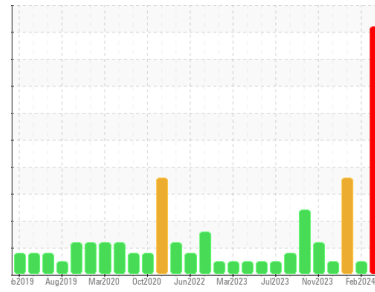




# PROBLEM SUMMARY

Sample Rating Trend



**DIRT**

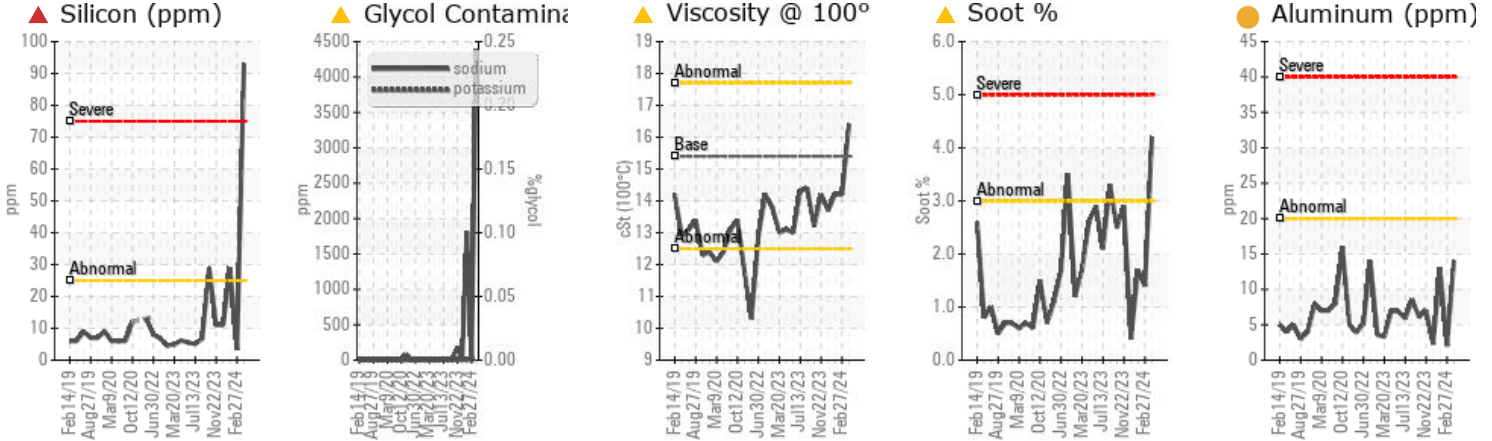


Machine Id  
**425061-402314**

Component  
**Diesel Engine**

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

## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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.

## PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	ABNORMAL
Silicon	ppm	ASTM D5185m	>25	▲ 93	3	▲ 29
Sodium	ppm	ASTM D5185m		▲ 4389	22	▲ 1807
Potassium	ppm	ASTM D5185m	>20	▲ 33	<1	8
Soot %	%	*ASTM D7844	>3	▲ 4.2	1.4	1.7
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 16.4	14.2	14.2

Customer Id: GFL836  
 Sample No.: GFL0114136  
 Lab Number: 06150934  
 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](mailto:jhester@wearcheckusa.com)

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 Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

## HISTORICAL DIAGNOSIS

NORMAL



### 27 Feb 2024 Diag: Wes Davis

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](#)



DIRT



### 26 Jan 2024 Diag: Jonathan Hester

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. Sodium and/or potassium levels are high. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The BN result indicates that there is suitable alkalinity remaining in the oil.

[view report](#)



NORMAL



### 29 Nov 2023 Diag: Wes Davis

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.

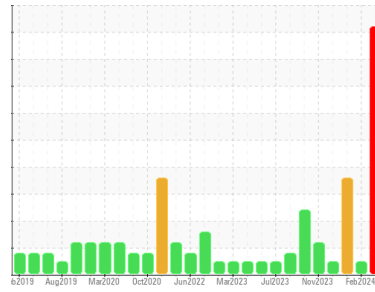
[view report](#)





# OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id  
**425061-402314**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## DIAGNOSIS

### ▲ Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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.

### ● Wear

All component wear rates are normal.

### ▲ Contamination

Sodium and/or potassium levels are high. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is an abnormal amount of solids and carbon present in the oil.

### ▲ Fluid Condition

The oil viscosity is higher than normal. 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>GFL0114136</b>	GFL0109791	GFL0103271
Sample Date	Client Info	<b>08 Apr 2024</b>	27 Feb 2024	26 Jan 2024
Machine Age	hrs	<b>25261</b>	25104	24937
Oil Age	hrs	<b>25094</b>	0	600
Oil Changed	Client Info	<b>Not Changed</b>	Not Changed	Changed
Sample Status		<b>SEVERE</b>	NORMAL	ABNORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method >0.2	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	<b>58</b>	16	39
Chromium	ppm ASTM D5185m >20	<b>3</b>	1	1
Nickel	ppm ASTM D5185m >4	<b>1</b>	<1	1
Titanium	ppm ASTM D5185m	<b>&lt;1</b>	0	<1
Silver	ppm ASTM D5185m >3	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >20	<b>14</b>	2	<b>13</b>
Lead	ppm ASTM D5185m >40	<b>1</b>	1	0
Copper	ppm ASTM D5185m >330	<b>2</b>	0	0
Tin	ppm ASTM D5185m >15	<b>&lt;1</b>	<1	<1
Vanadium	ppm ASTM D5185m	<b>&lt;1</b>	<1	<1
Cadmium	ppm ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>164</b>	8	41
Barium	ppm ASTM D5185m 0	<b>&lt;1</b>	0	<1
Molybdenum	ppm ASTM D5185m 60	<b>235</b>	59	115
Manganese	ppm ASTM D5185m 0	<b>1</b>	<1	<1
Magnesium	ppm ASTM D5185m 1010	<b>797</b>	1042	854
Calcium	ppm ASTM D5185m 1070	<b>1022</b>	1360	1005
Phosphorus	ppm ASTM D5185m 1150	<b>947</b>	1035	958
Zinc	ppm ASTM D5185m 1270	<b>1095</b>	1454	1187
Sulfur	ppm ASTM D5185m 2060	<b>3415</b>	3441	2970

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>▲ 93</b>	3	<b>▲ 29</b>
Sodium	ppm ASTM D5185m	<b>▲ 4389</b>	22	<b>▲ 1807</b>
Potassium	ppm ASTM D5185m >20	<b>▲ 33</b>	<1	8
Glycol	% *ASTM D2982	<b>NEG</b>	NEG	NEG

## INFRA-RED

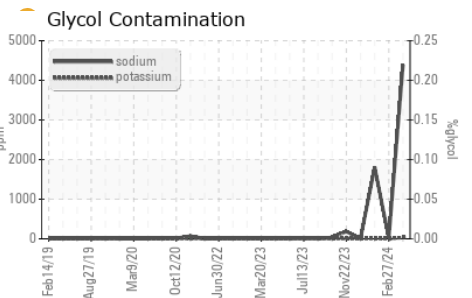
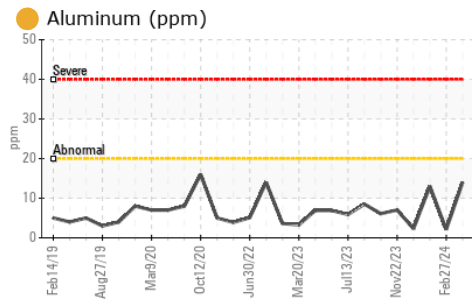
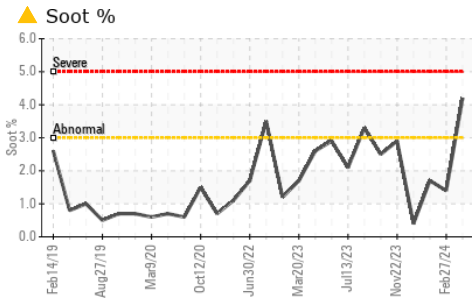
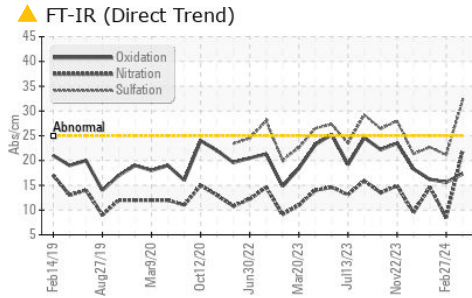
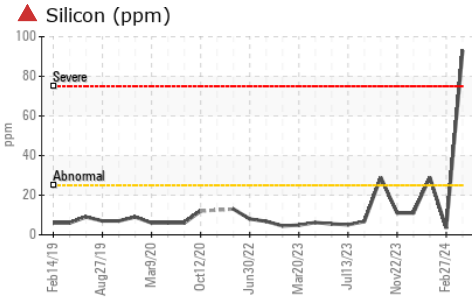
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>▲ 4.2</b>	1.4	1.7
Nitration	Abs/cm *ASTM D7624 >20	<b>21.9</b>	8.5	14.6
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>32.1</b>	21.1	22.7

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>17.3</b>	15.6	16.2
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>30.4</b>	9.3	14.7



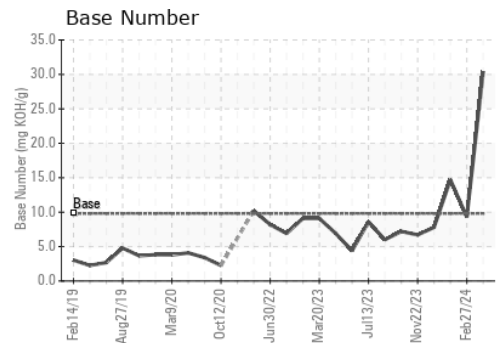
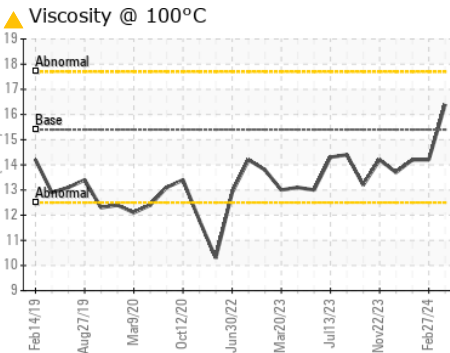
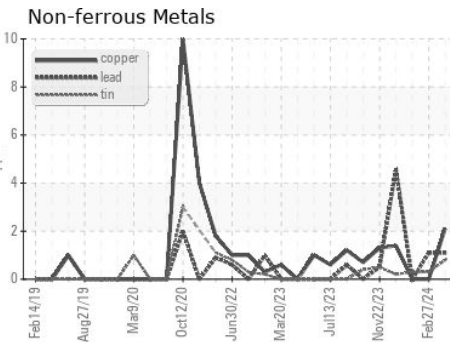
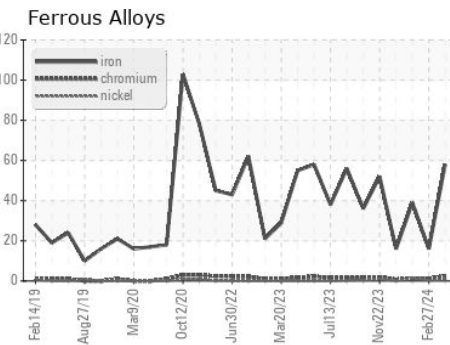
# OIL ANALYSIS REPORT



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	▲ 16.4	14.2

## GRAPHS



Certificate L2367

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

Sample No. : GFL0114136

Lab Number : 06150934

Unique Number : 10981012

Test Package : FLEET ( Additional Tests: Glycol )

Received : 16 Apr 2024

Tested : 19 Apr 2024

Diagnosed : 19 Apr 2024 - Jonathan Hester

GFL Environmental - 836 - Kansas City Hauling

7801 East Truman Road

Kansas City, MO

US 64126

Contact: Loyce Stewart

loyce.stewart@gflen.com

T:

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)