



# PROBLEM SUMMARY

Sample Rating Trend

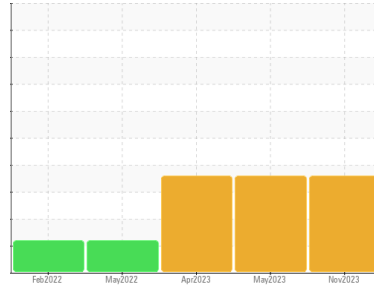
FUEL



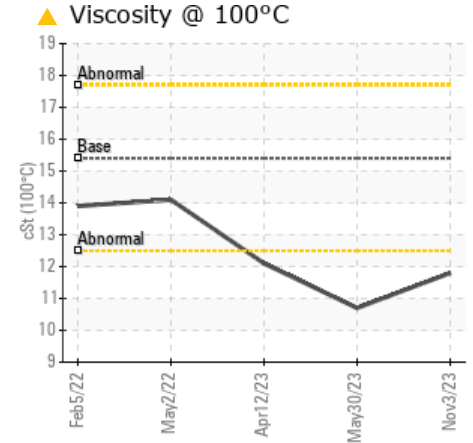
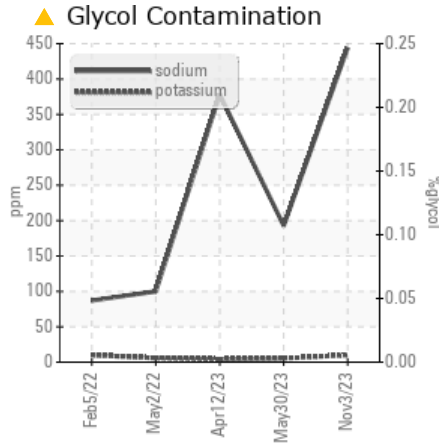
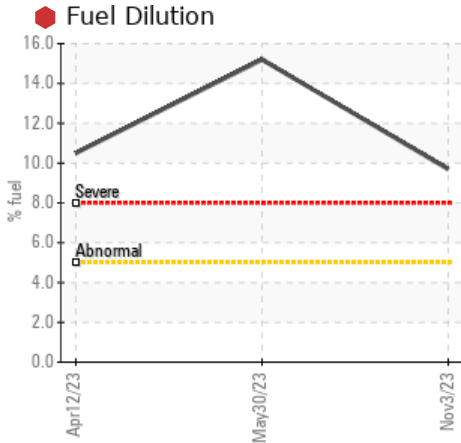
Machine Id  
**722026-261545**

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 fuel injection system. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	SEVERE
Sodium	ppm	ASTM D5185m		▲ 444	▲ 193	▲ 378
Fuel	%	ASTM D3524	>5	● 9.7	● 15.2	● 10.5
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 11.8	▲ 10.7	▲ 12.1

Customer Id: GFL837  
Sample No.: GFL0098598  
Lab Number: 06006216  
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
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

## HISTORICAL DIAGNOSIS

### 30 May 2023 Diag: Angela Borella

#### FUEL



We advise that you check for possible coolant leak. Check for low coolant level. 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. All component wear rates are normal. Sodium and/or potassium levels are high. There is a high amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report



### 12 Apr 2023 Diag: Jonathan Hester

#### FUEL



We advise that you check for possible coolant leak. Check for low coolant level. 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. All component wear rates are normal. Sodium and/or potassium levels are high. There is a high amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report



### 02 May 2022 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 suitable for further service.

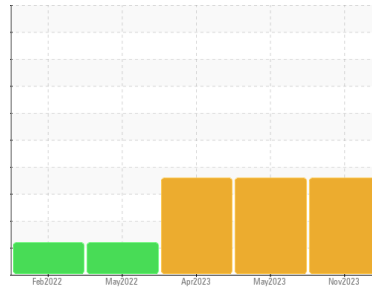
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# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**722026-261545**

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 fuel injection system. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### Contamination

Sodium and/or potassium levels are high. 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		<b>GFL0098598</b>	GFL0078556	GFL0078532
Sample Date	Client Info		<b>03 Nov 2023</b>	30 May 2023	12 Apr 2023
Machine Age	hrs	Client Info	<b>19806</b>	19082	18855
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	Changed	Changed
Sample Status			<b>SEVERE</b>	SEVERE	SEVERE

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >110	<b>26</b>	25	50
Chromium	ppm	ASTM D5185m >4	<b>1</b>	2	3
Nickel	ppm	ASTM D5185m >2	<b>&lt;1</b>	1	<1
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>3</b>	2	2
Lead	ppm	ASTM D5185m >45	<b>1</b>	2	0
Copper	ppm	ASTM D5185m >85	<b>45</b>	0	<1
Tin	ppm	ASTM D5185m >4	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>11</b>	9	14
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>69</b>	54	64
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>829</b>	799	793
Calcium	ppm	ASTM D5185m 1070	<b>925</b>	876	904
Phosphorus	ppm	ASTM D5185m 1150	<b>947</b>	851	836
Zinc	ppm	ASTM D5185m 1270	<b>1158</b>	1094	1059
Sulfur	ppm	ASTM D5185m 2060	<b>2774</b>	2689	3036

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >30	<b>15</b>	5	10
Sodium	ppm	ASTM D5185m	<b>▲ 444</b>	▲ 193	▲ 378
Potassium	ppm	ASTM D5185m >20	<b>10</b>	5	4
Fuel	%	ASTM D3524 >5	<b>● 9.7</b>	● 15.2	● 10.5
Glycol	%	*ASTM D2982	<b>NEG</b>	NEG	NEG

## INFRA-RED

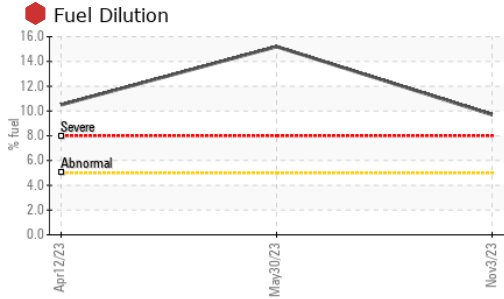
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.6</b>	0.8	1.4
Nitration	Abs/cm	*ASTM D7624 >20	<b>7.7</b>	11.5	14.2
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>20.4</b>	22.5	24.1

## FLUID DEGRADATION

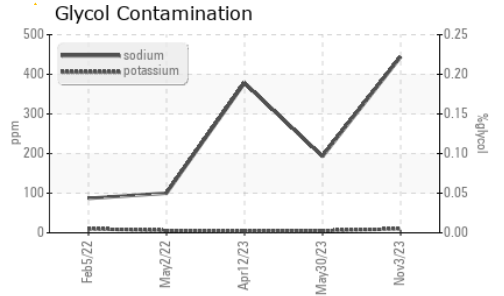
	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>15.4</b>	21.4	23.9
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>9.7</b>	6.6	5.5



# OIL ANALYSIS REPORT

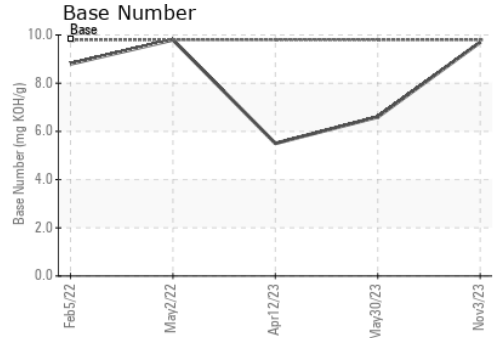
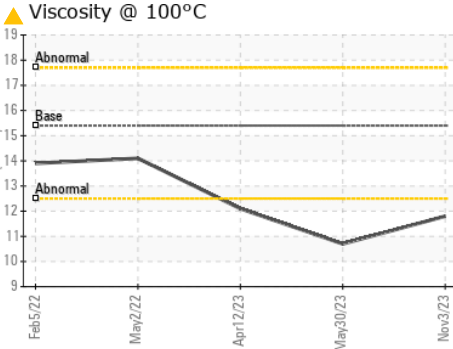
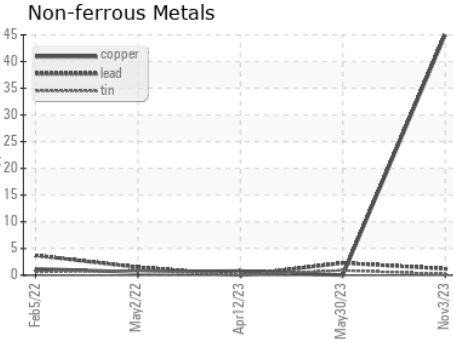
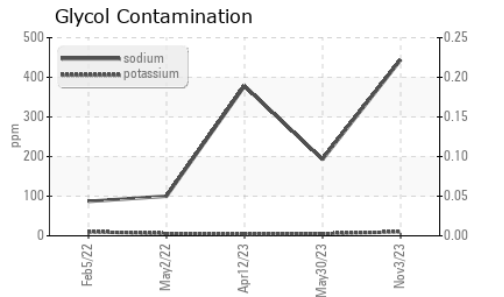
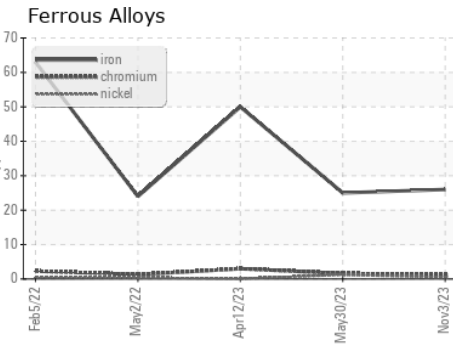
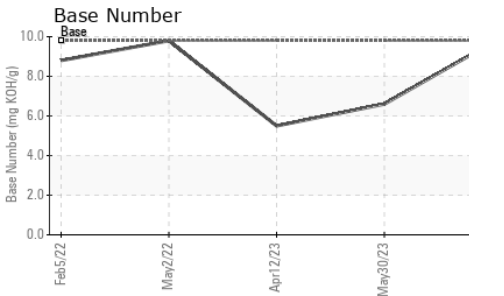


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	▲ 11.8	▲ 10.7

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0098598 **Received** : 13 Nov 2023  
**Lab Number** : 06006216 **Diagnosed** : 16 Nov 2023  
**Unique Number** : 10739978 **Diagnostician** : Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: Glycol, PercentFuel )

**GFL Environmental - 837 - Harrison TS**  
 22820 S State Route 291  
 Harrisonville, MO  
 US 64701  
 Contact: BRYAN SWANSON  
 bryanswanson@gflenv.com

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)

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F: