



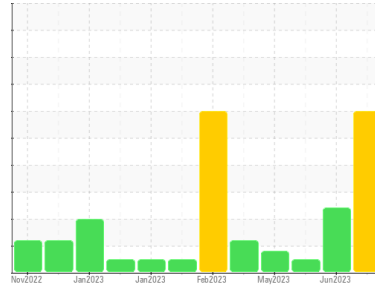
# PROBLEM SUMMARY

Sample Rating Trend

DEGRADATION

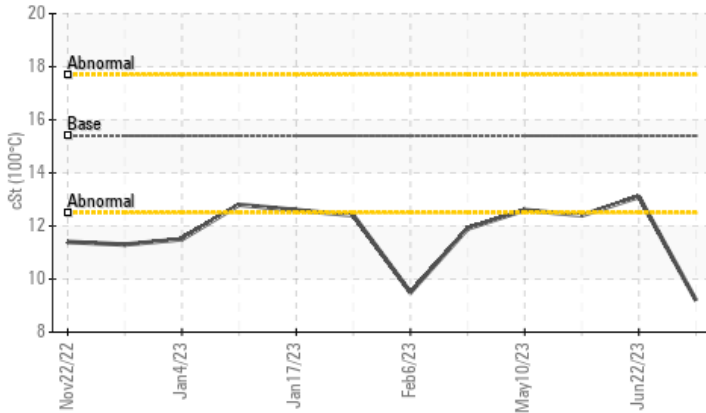


Machine Id  
**723008-234527**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- LTR)**

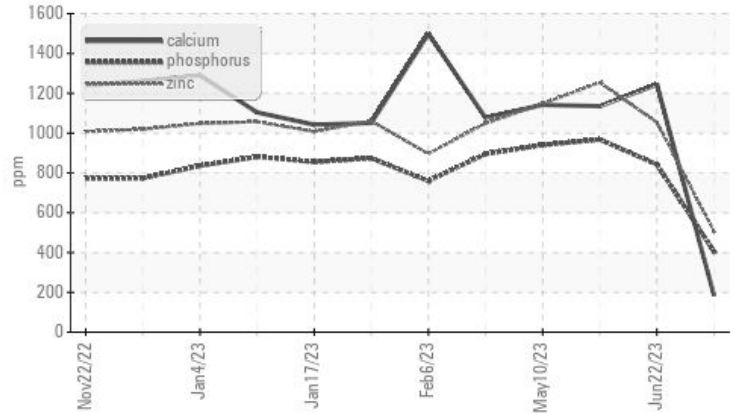


## COMPONENT CONDITION SUMMARY

### ▲ Viscosity @ 100°C



### ▲ Additives



## RECOMMENDATION

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	ABNORMAL	NORMAL
Molybdenum	ppm	ASTM D5185m	60	▲ 8	53	68
Magnesium	ppm	ASTM D5185m	1010	▲ 104	880	888
Calcium	ppm	ASTM D5185m	1070	▲ 185	1244	1135
Phosphorus	ppm	ASTM D5185m	1150	▲ 406	842	968
Zinc	ppm	ASTM D5185m	1270	▲ 507	1054	1254
Sulfur	ppm	ASTM D5185m	2060	▲ 1261	3097	3826
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	◆ 1.0	8.5	5.5
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 9.2	13.1	12.4

Customer Id: GFL076  
Sample No.: GFL0064603  
Lab Number: 05904855  
Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Doug Bogart +1 (800)237-1369 x4016  
[dougb@wearcheckusa.com](mailto:dougb@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.

## HISTORICAL DIAGNOSIS

### 22 Jun 2023 Diag: Don Baldrige

#### DIRT



We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor. All component wear rates are normal. 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. The condition of the oil is suitable for further service.

[view report](#)



### 03 Jun 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](#)



### 10 May 2023 Diag: Wes Davis

#### FUEL



No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. Light fuel dilution occurring. No other contaminants were detected 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](#)





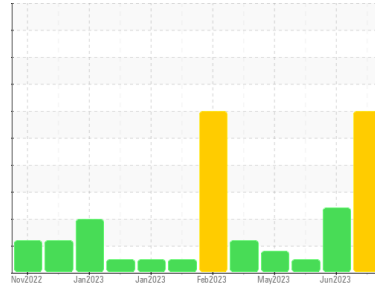
# OIL ANALYSIS REPORT

Sample Rating Trend

DEGRADATION



Machine Id  
**723008-234527**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- LTR)**



## DIAGNOSIS

### Recommendation

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

Fuel content negligible. No other contaminants were detected in the oil.

### Fluid Condition

The oil viscosity is lower than normal. This plus the additive levels indicates the addition of a different brand, or type of oil. The BN level is low.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0064603</b>	GFL0045432	GFL0045405
Sample Date	Client Info	<b>11 Jul 2023</b>	22 Jun 2023	03 Jun 2023
Machine Age	hrs	<b>22344</b>	0	22087
Oil Age	hrs	<b>0</b>	0	982
Oil Changed	Client Info	<b>N/A</b>	N/A	Changed
Sample Status		<b>SEVERE</b>	ABNORMAL	NORMAL

## CONTAMINATION

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

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >120	<b>24</b>	12	19
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >5	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>8</b>	6	8
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m >330	<b>2</b>	5	2
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	<1	0

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	<b>0</b>	28	15
Barium	ppm	ASTM D5185m 0	<b>&lt;1</b>	1	0
Molybdenum	ppm	ASTM D5185m 60	<b>8</b>	53	68
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>104</b>	880	888
Calcium	ppm	ASTM D5185m 1070	<b>185</b>	1244	1135
Phosphorus	ppm	ASTM D5185m 1150	<b>406</b>	842	968
Zinc	ppm	ASTM D5185m 1270	<b>507</b>	1054	1254
Sulfur	ppm	ASTM D5185m 2060	<b>1261</b>	3097	3826

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	<b>15</b>	26	4
Sodium	ppm	ASTM D5185m	<b>7</b>	4	10
Potassium	ppm	ASTM D5185m >20	<b>2</b>	11	2
Fuel	%	ASTM D3524 >3.0	<b>2.3</b>	<1.0	<1.0

## INFRA-RED

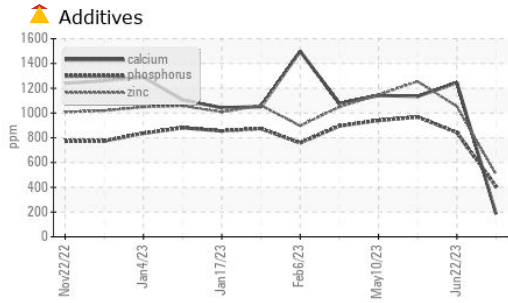
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >4	<b>0.5</b>	0.3	0.6
Nitration	Abs/cm	*ASTM D7624 >20	<b>4.0</b>	7.6	10.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>13.7</b>	23.0	20.1

## FLUID DEGRADATION

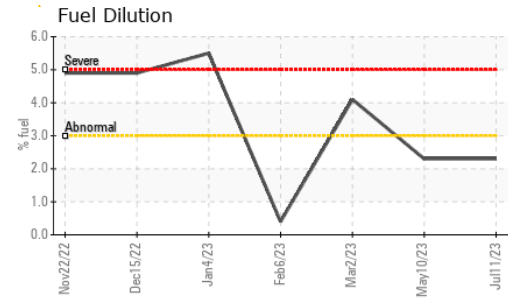
method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>6.1</b>	20.6	16.7
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>1.0</b>	8.5	5.5



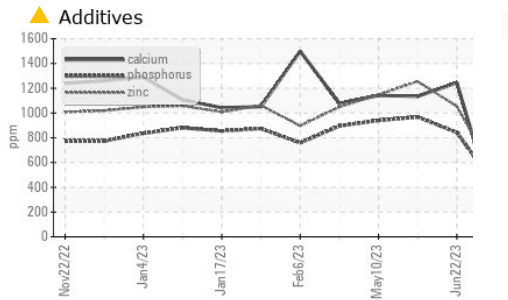
# OIL ANALYSIS REPORT



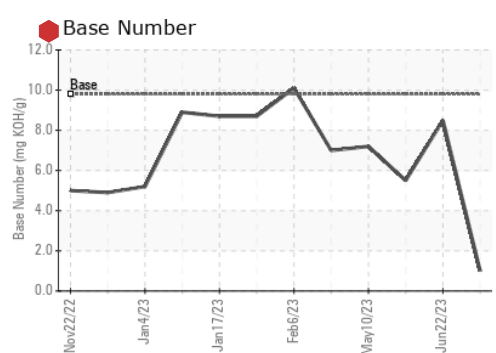
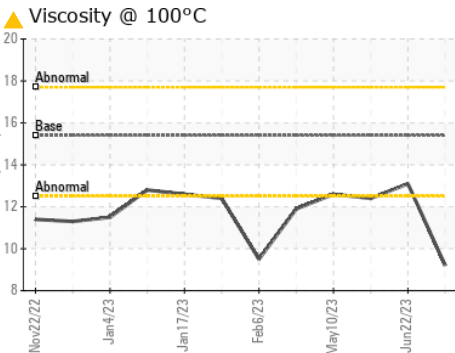
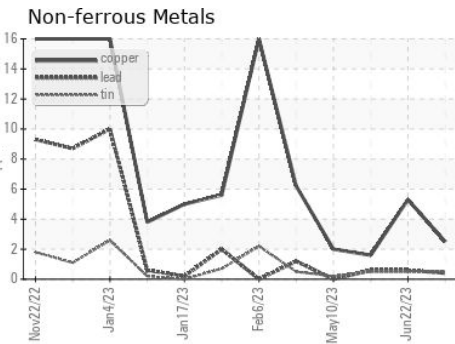
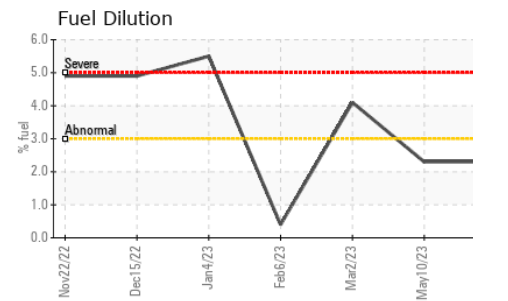
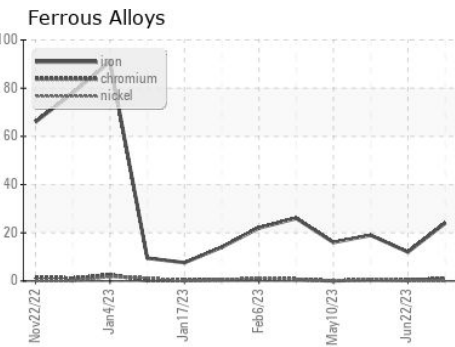
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	▲ 9.2	13.1	12.4



## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0064603  
**Lab Number** : 05904855  
**Unique Number** : 10566211  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

**GFL Environmental - 076 - Alpine**  
 1130 County Line Rd  
 Trafford, AL  
 US 35172  
 Contact: CHELSEA BRYAN

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: