

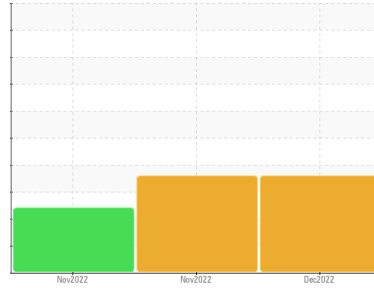


# PROBLEM SUMMARY



Machine Id  
**426053-402041**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

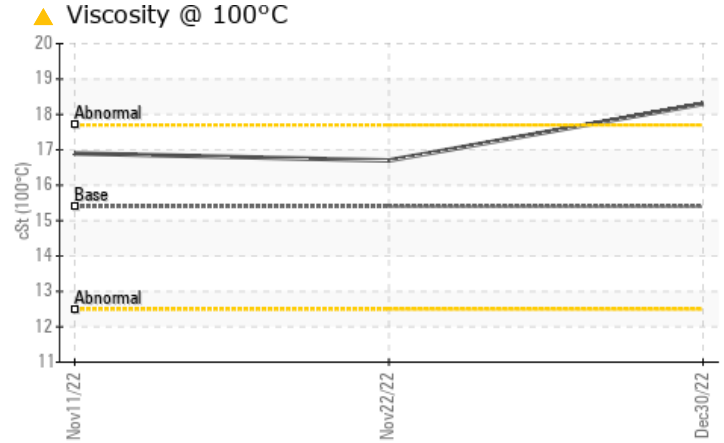
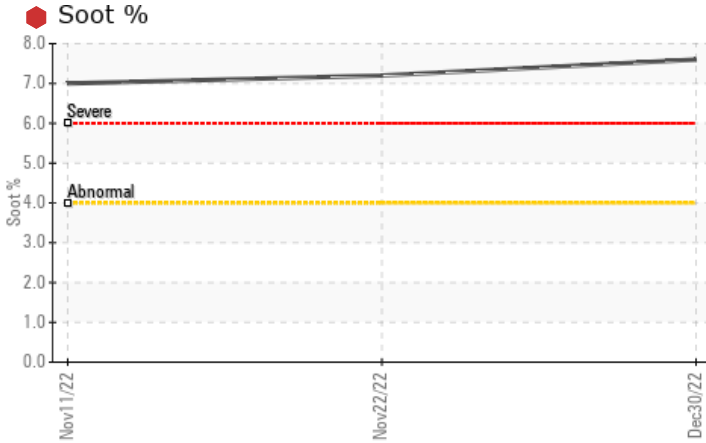
Sample Rating Trend



SOOT



## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. The oil change at the time of sampling has been noted. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

## PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	ABNORMAL
Soot %	%	*ASTM D7844	>4	7.6	7.2	7
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	0.0	0.0	0.0
Visc @ 100°C	cSt	ASTM D445	15.4	18.3	16.7	16.9

Customer Id: GFL868  
 Sample No.: GFL0069625  
 Lab Number: 05733263  
 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 Filter	MISSED	Jan 17 2023	?	We recommend you service the filters on this component.
Resample	MISSED	Jan 17 2023	?	We recommend an early resample to monitor this condition.
Alert	MISSED	Jan 17 2023	?	NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.
Check Combustion	MISSED	Jan 17 2023	?	We advise that you check for faulty combustion, plugged air filters, or aftercoolers.

## HISTORICAL DIAGNOSIS

### 22 Nov 2022 Diag: Jonathan Hester

#### SOOT



We advise that you check for faulty combustion, plugged air filters, or aftercoolers. The oil change at the time of sampling has been noted. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value. All component wear rates are normal. There is an abnormal amount of solids and carbon present in the oil. The oil viscosity is higher than normal. The BN level is low.

view report



### 11 Nov 2022 Diag: Don Baldrige

#### DEGRADATION



We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value. All component wear rates are normal. There is an abnormal amount of solids and carbon present in the oil. The oil viscosity is higher than normal. The BN level is low.

view report





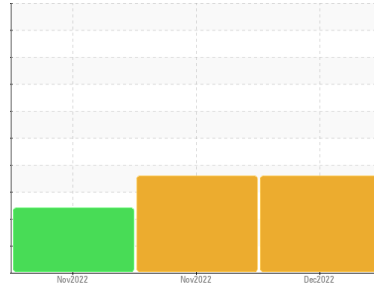
# OIL ANALYSIS REPORT

Sample Rating Trend

SOOT



Machine Id  
**426053-402041**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**



## DIAGNOSIS

### Recommendation

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. The oil change at the time of sampling has been noted. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

### Wear

All component wear rates are normal.

### Contamination

There is an abnormal amount of solids and carbon present in the oil.

### Fluid Condition

The oil viscosity is higher than normal. The BN level is low.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0069625</b>	GFL0064206	GFL0064202
Sample Date	Client Info		<b>30 Dec 2022</b>	22 Nov 2022	11 Nov 2022
Machine Age	hrs	Client Info	<b>36663</b>	36531	36516
Oil Age	hrs	Client Info	<b>132</b>	36531	36516
Oil Changed	Client Info		<b>Changed</b>	Changed	Not Changed
Sample Status			<b>SEVERE</b>	SEVERE	ABNORMAL

## CONTAMINATION

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

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	<b>72</b>	55	52
Chromium	ppm	ASTM D5185m >20	<b>3</b>	2	2
Nickel	ppm	ASTM D5185m >5	<b>1</b>	0	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>2</b>	2	2
Lead	ppm	ASTM D5185m >40	<b>6</b>	4	4
Copper	ppm	ASTM D5185m >330	<b>7</b>	3	3
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>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>1</b>	3	3
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	2
Molybdenum	ppm	ASTM D5185m 60	<b>57</b>	58	61
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>869</b>	898	856
Calcium	ppm	ASTM D5185m 1070	<b>1026</b>	1026	1055
Phosphorus	ppm	ASTM D5185m 1150	<b>894</b>	919	924
Zinc	ppm	ASTM D5185m 1270	<b>1145</b>	1175	1155
Sulfur	ppm	ASTM D5185m 2060	<b>2724</b>	3275	3210

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>6</b>	6	6
Sodium	ppm	ASTM D5185m	<b>4</b>	3	2
Potassium	ppm	ASTM D5185m >20	<b>7</b>	6	7

## INFRA-RED

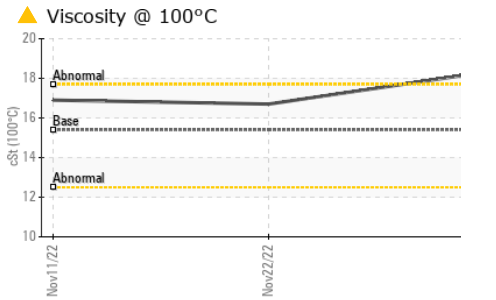
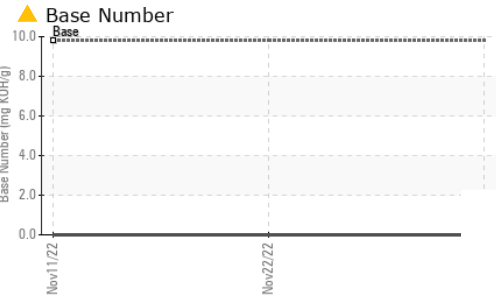
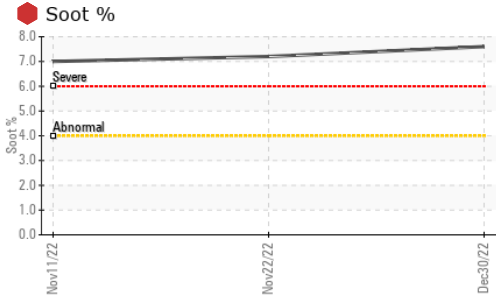
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>7.6</b>	7.2	7
Nitration	Abs/cm	*ASTM D7624 >20	<b>46.1</b>	15.9	16.6
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>55.8</b>	36.3	35.7

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>101.8</b>	20.9	22.8
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>0.0</b>	0.0	0.0



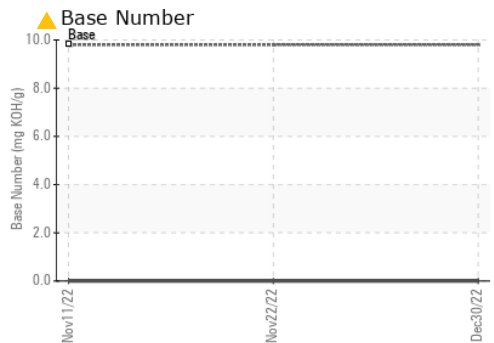
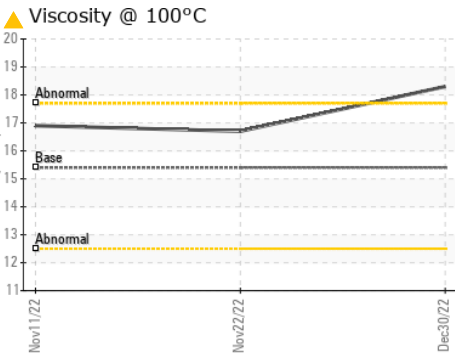
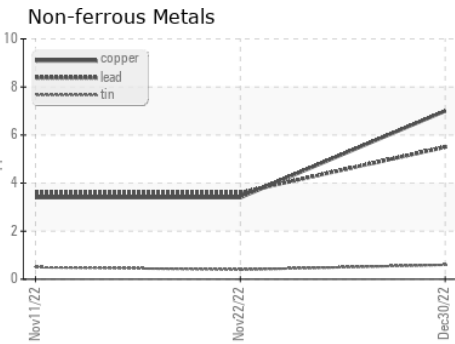
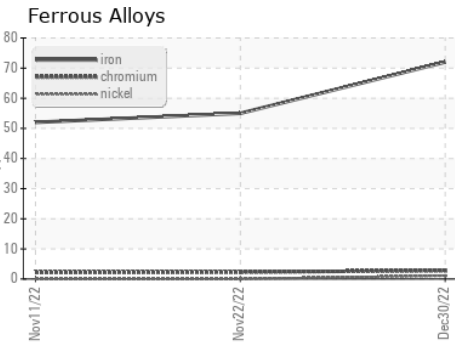
# OIL ANALYSIS REPORT



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	▲ 18.3	▲ 16.7

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0069625 **Received** : 09 Jan 2023  
**Lab Number** : 05733263 **Diagnosed** : 10 Jan 2023  
**Unique Number** : 10282861 **Diagnostician** : Jonathan Hester  
**Test Package** : FLEET

GFL Environmental - 868 - Childersburg Fines Hauling (Alpine)  
 13737 Plant Rd  
 Childersburg, AL  
 US 35044  
 Contact: JONATHAN WILLIAMS  
 jonathan.williams@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: