



# PROBLEM SUMMARY

Sample Rating Trend

FUEL

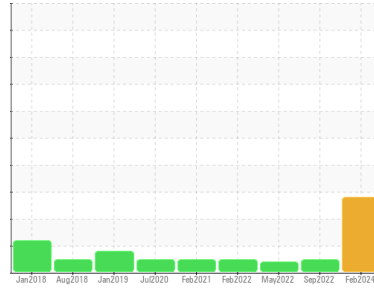


Area  
**(P577330)**

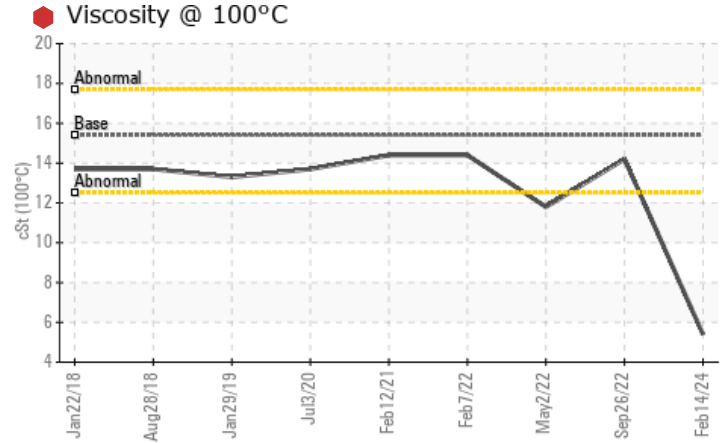
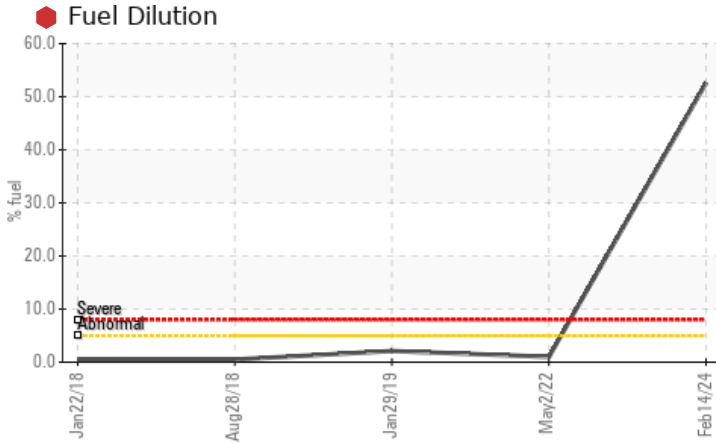
Machine Id  
**10647**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (7 GAL)**



## COMPONENT CONDITION SUMMARY



## 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	ATTENTION
Fuel	%	ASTM D3524	>5	52.6	<1.0	1.0
Visc @ 100°C	cSt	ASTM D445	15.4	5.4	14.2	11.8

Customer Id: GFL015  
Sample No.: GFL0104031  
Lab Number: 06091590  
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

### 26 Sep 2022 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



### 02 May 2022 Diag: Jonathan Hester

#### VISCOSITY



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. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report



### 07 Feb 2022 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.

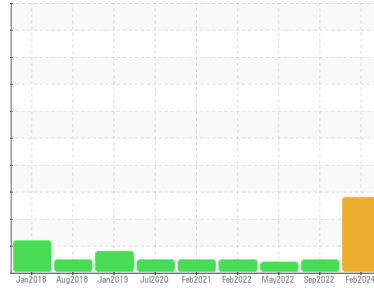
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area  
**(P577330)**

Machine Id  
**10647**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (7 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

Metal levels are typical for a new component breaking in.

### 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>GFL0104031</b>	GFL0060297	GFL0051454
Sample Date	Client Info	<b>14 Feb 2024</b>	26 Sep 2022	02 May 2022
Machine Age	hrs	<b>54427</b>	15746	15277
Oil Age	hrs	<b>222</b>	15746	15277
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>SEVERE</b>	NORMAL	ATTENTION

## CONTAMINATION

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

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	<b>54</b>	12	25
Chromium	ppm ASTM D5185m >20	<b>3</b>	<1	<1
Nickel	ppm ASTM D5185m >4	<b>&lt;1</b>	0	0
Titanium	ppm ASTM D5185m	<b>&lt;1</b>	0	0
Silver	ppm ASTM D5185m >3	<b>0</b>	0	<1
Aluminum	ppm ASTM D5185m >20	<b>5</b>	6	9
Lead	ppm ASTM D5185m >40	<b>0</b>	0	<1
Copper	ppm ASTM D5185m >330	<b>2</b>	<1	1
Tin	ppm ASTM D5185m >15	<b>&lt;1</b>	0	<1
Antimony	ppm ASTM D5185m	<b>---</b>	---	---
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>5</b>	27	17
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>32</b>	55	46
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm ASTM D5185m 1010	<b>381</b>	682	733
Calcium	ppm ASTM D5185m 1070	<b>523</b>	1332	1103
Phosphorus	ppm ASTM D5185m 1150	<b>454</b>	978	905
Zinc	ppm ASTM D5185m 1270	<b>541</b>	1181	1004
Sulfur	ppm ASTM D5185m 2060	<b>1330</b>	3728	2443

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>21</b>	0	4
Sodium	ppm ASTM D5185m	<b>4</b>	8	3
Potassium	ppm ASTM D5185m >20	<b>5</b>	8	17
Fuel	% ASTM D3524 >5	<b>52.6</b>	<1.0	1.0

## INFRA-RED

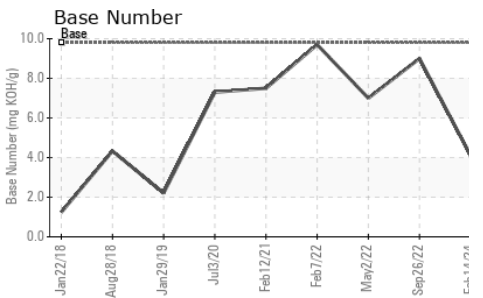
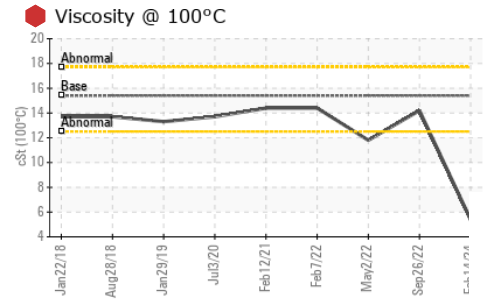
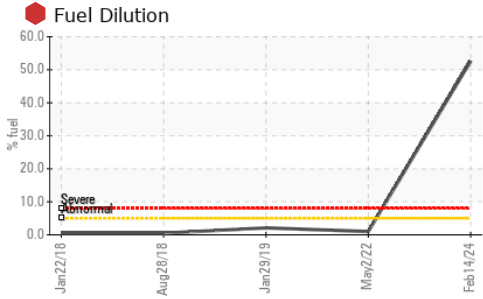
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>0.8</b>	0.3	0.5
Nitration	Abs/cm *ASTM D7624 >20	<b>12.0</b>	7.8	9.3
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>20.4</b>	20.9	21.4

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>21.3</b>	15.8	17.3
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>4.1</b>	9.0	7.0



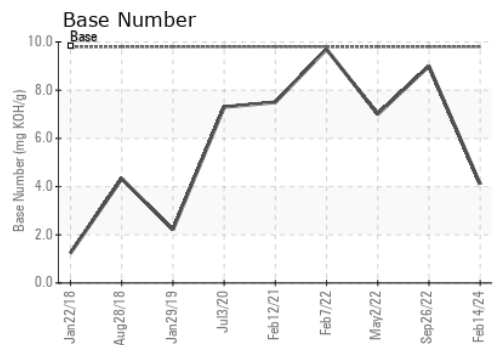
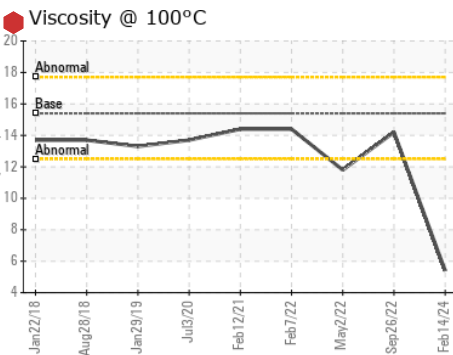
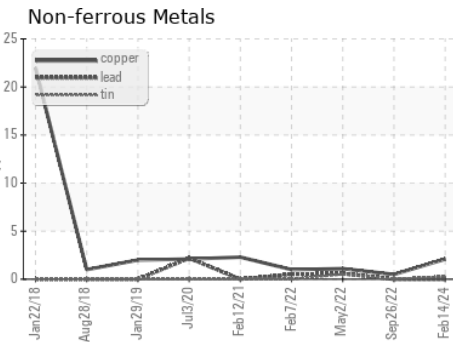
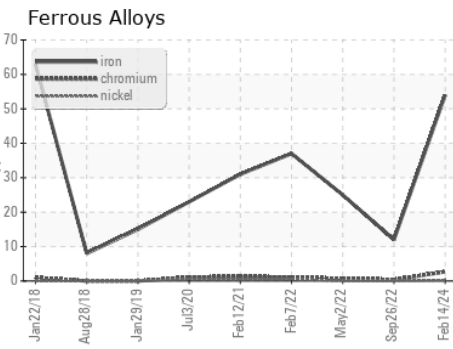
# OIL ANALYSIS REPORT



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	5.4	14.2	11.8

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0104031 **Received** : 16 Feb 2024  
**Lab Number** : 06091590 **Tested** : 20 Feb 2024  
**Unique Number** : 10884443 **Diagnosed** : 20 Feb 2024 - Wes Davis  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

**GFL Environmental - 015 - Columbia**  
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 US 29203-3219  
 Contact: NOEL MATTHEWS  
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 T: (803)935-0249  
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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)