



# PROBLEM SUMMARY

Sample Rating Trend

DIRT

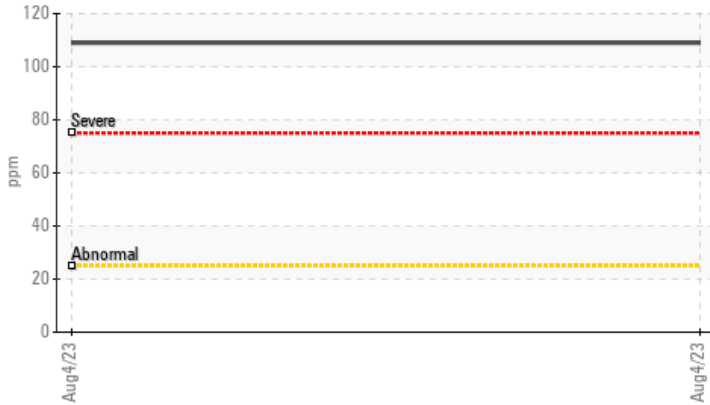


Machine Id  
**813033**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

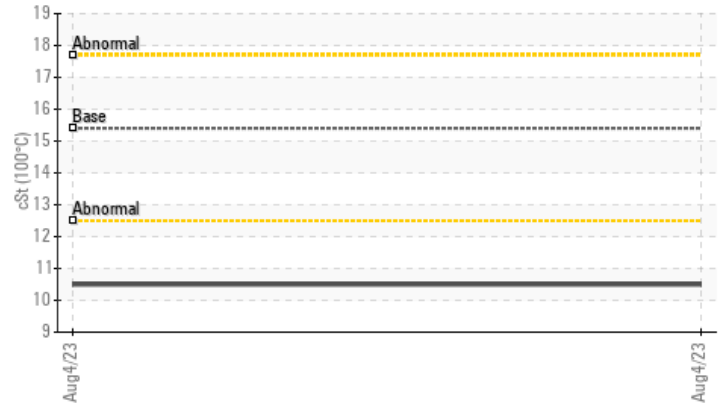


## COMPONENT CONDITION SUMMARY

### ▲ Silicon (ppm)



### ▲ Viscosity @ 100°C



## RECOMMENDATION

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. Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	---	---
Silicon	ppm	ASTM D5185m	>25	▲ 109	---	---
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 10.5	---	---

Customer Id: GFL959A  
Sample No.: GFL0084851  
Lab Number: 05921032  
Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Sean Felton +1 919-379-4092  
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To change component or sample information:  
Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

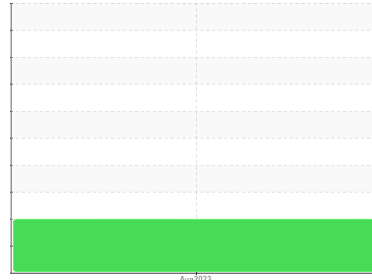
Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.

## HISTORICAL DIAGNOSIS



# OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id  
**813033**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

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. Resample at the next service interval to monitor.

### Wear

All other metal levels are typical for a new component breaking in.

### Contamination

Elemental level of silicon (Si) above normal indicating ingress of seal material. Tests indicate that there is no fuel present in the oil.

### Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0084851</b>	---	---
Sample Date	Client Info	<b>04 Aug 2023</b>	---	---
Machine Age	hrs Client Info	<b>699</b>	---	---
Oil Age	hrs Client Info	<b>200</b>	---	---
Oil Changed	Client Info	<b>Changed</b>	---	---
Sample Status		<b>ABNORMAL</b>	---	---

## CONTAMINATION

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

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >120	<b>40</b>	---	---
Chromium	ppm ASTM D5185m >20	<b>1</b>	---	---
Nickel	ppm ASTM D5185m >5	<b>10</b>	---	---
Titanium	ppm ASTM D5185m >2	<b>&lt;1</b>	---	---
Silver	ppm ASTM D5185m >2	<b>0</b>	---	---
Aluminum	ppm ASTM D5185m >20	<b>5</b>	---	---
Lead	ppm ASTM D5185m >40	<b>2</b>	---	---
Copper	ppm ASTM D5185m >330	<b>157</b>	---	---
Tin	ppm ASTM D5185m >15	<b>4</b>	---	---
Vanadium	ppm ASTM D5185m	<b>&lt;1</b>	---	---
Cadmium	ppm ASTM D5185m	<b>0</b>	---	---

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>175</b>	---	---
Barium	ppm ASTM D5185m 0	<b>0</b>	---	---
Molybdenum	ppm ASTM D5185m 60	<b>116</b>	---	---
Manganese	ppm ASTM D5185m 0	<b>5</b>	---	---
Magnesium	ppm ASTM D5185m 1010	<b>757</b>	---	---
Calcium	ppm ASTM D5185m 1070	<b>1546</b>	---	---
Phosphorus	ppm ASTM D5185m 1150	<b>728</b>	---	---
Zinc	ppm ASTM D5185m 1270	<b>947</b>	---	---
Sulfur	ppm ASTM D5185m 2060	<b>2744</b>	---	---

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>▲ 109</b>	---	---
Sodium	ppm ASTM D5185m	<b>2</b>	---	---
Potassium	ppm ASTM D5185m >20	<b>8</b>	---	---
Fuel	% ASTM D3524 >3.0	<b>0.4</b>	---	---

## INFRA-RED

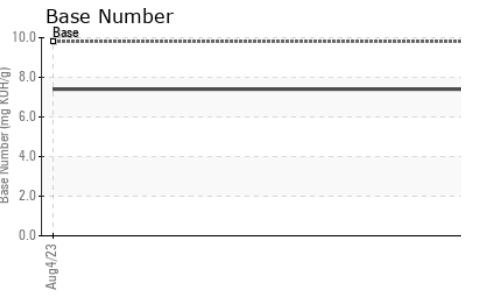
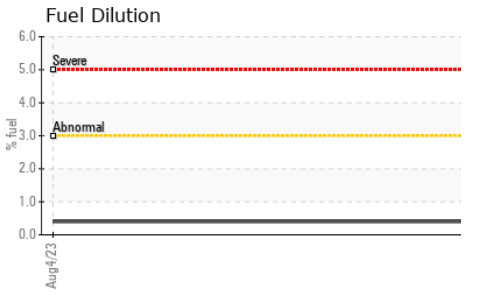
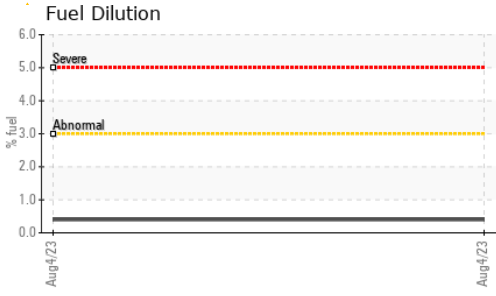
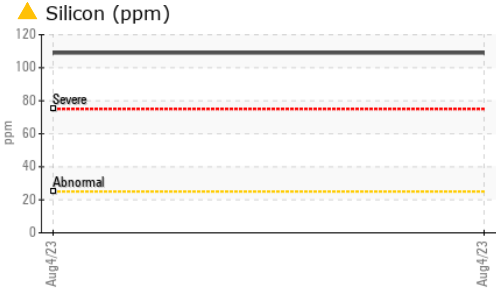
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	<b>0.6</b>	---	---
Nitration	Abs/cm *ASTM D7624 >20	<b>10.9</b>	---	---
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>23.5</b>	---	---

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>22.3</b>	---	---
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>7.4</b>	---	---



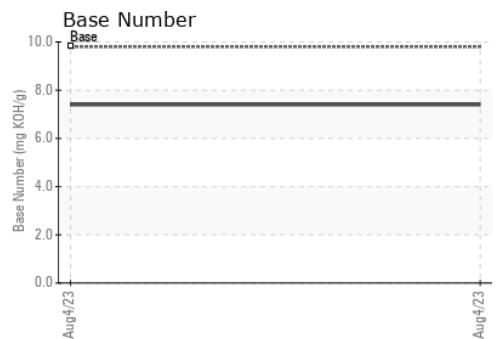
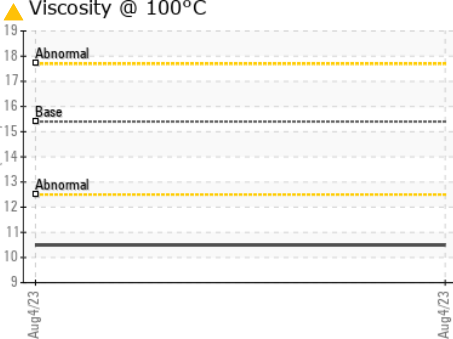
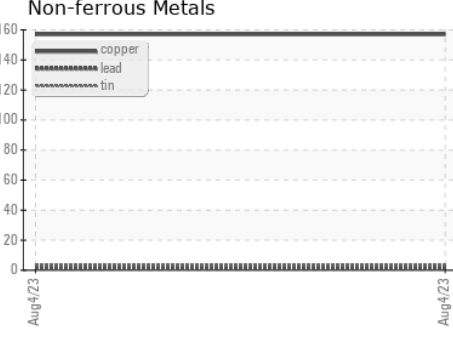
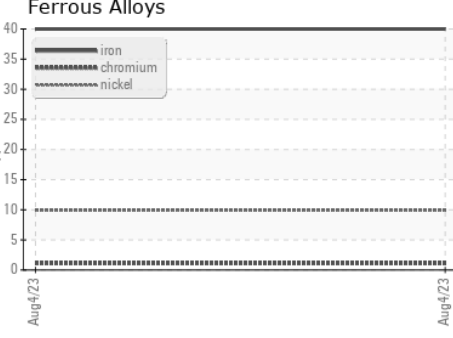
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---
Precipitate	scalar	*Visual	NONE	NONE	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---	---
Free Water	scalar	*Visual		NEG	---	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4 ▲ 10.5	---	---

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0084851 **Received** : 10 Aug 2023  
**Lab Number** : 05921032 **Diagnosed** : 14 Aug 2023  
**Unique Number** : 10592946 **Diagnostician** : Sean Felton  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

**GFL Environmental - 959A - Urbana HC**  
 4808 cunningham Rd  
 Urbana, IL  
 US 61802  
 Contact: Kristine Tyrone  
 ktyrone@gflenv.com

Certificate L2367  
 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)