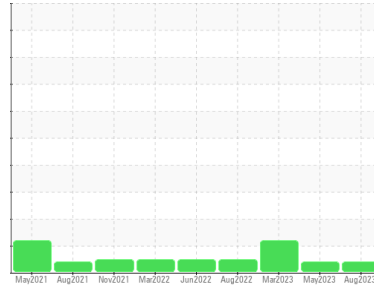




# PROBLEM SUMMARY

Sample Rating Trend



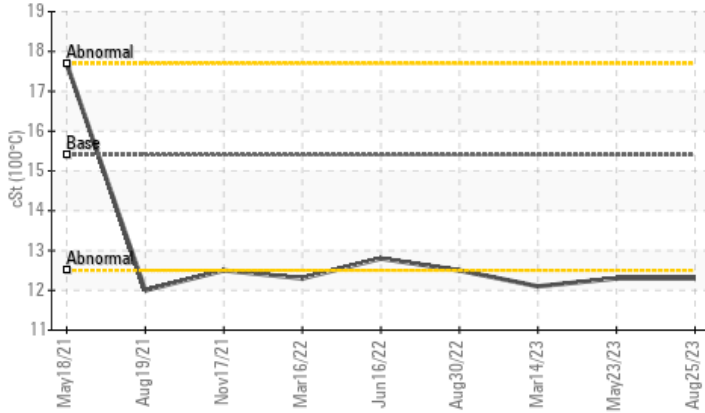
## VISCOSITY



Machine Id  
**921011**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

### COMPONENT CONDITION SUMMARY

▲ Viscosity @ 100°C



### RECOMMENDATION

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				ATTENTION	ATTENTION	ATTENTION
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 12.3	▲ 12.3	▲ 12.1

Customer Id: GFL622  
 Sample No.: GFL0090502  
 Lab Number: 05936536  
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Don Baldrige +1  
[don.b505@comcast.net](mailto:don.b505@comcast.net)

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.

## HISTORICAL DIAGNOSIS

### 23 May 2023 Diag: Don Baldrige

#### 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. 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](#)



### 14 Mar 2023 Diag: Jonathan Hester

#### FUEL



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. Light fuel dilution occurring. 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](#)



### 30 Aug 2022 Diag: Wes Davis

#### NORMAL



Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. 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.

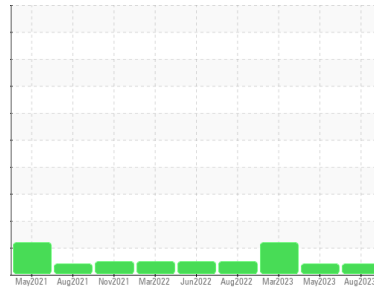
[view report](#)





# OIL ANALYSIS REPORT

Sample Rating Trend



## VISCOSITY



Machine Id  
**921011**

Component  
**Diesel Engine**

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

### DIAGNOSIS

#### ▲ Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination 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>GFL0090502</b>	GFL0078755	GFL0071423	
Sample Date	Client Info	<b>25 Aug 2023</b>	23 May 2023	14 Mar 2023	
Machine Age	hrs	Client Info	<b>13249</b>	12666	12269
Oil Age	hrs	Client Info	<b>590</b>	590	749
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed	
Sample Status		<b>ATTENTION</b>	ATTENTION	ATTENTION	

### CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<b>&lt;1.0</b>	<1.0	▲ 2.5
Glycol	WC Method	<b>NEG</b>	NEG	NEG

### WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	<b>58</b>	70	52
Chromium	ppm ASTM D5185m >20	<b>3</b>	4	3
Nickel	ppm ASTM D5185m >4	<b>&lt;1</b>	<1	0
Titanium	ppm ASTM D5185m	<b>&lt;1</b>	<1	0
Silver	ppm ASTM D5185m >3	<b>0</b>	<1	0
Aluminum	ppm ASTM D5185m >20	<b>4</b>	4	4
Lead	ppm ASTM D5185m >40	<b>5</b>	6	2
Copper	ppm ASTM D5185m >330	<b>6</b>	6	3
Tin	ppm ASTM D5185m >15	<b>2</b>	4	3
Vanadium	ppm ASTM D5185m	<b>0</b>	<1	0
Cadmium	ppm ASTM D5185m	<b>0</b>	<1	0

### ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>14</b>	28	49
Barium	ppm ASTM D5185m 0	<b>2</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>62</b>	50	43
Manganese	ppm ASTM D5185m 0	<b>1</b>	4	4
Magnesium	ppm ASTM D5185m 1010	<b>874</b>	615	473
Calcium	ppm ASTM D5185m 1070	<b>1107</b>	1384	1574
Phosphorus	ppm ASTM D5185m 1150	<b>992</b>	874	827
Zinc	ppm ASTM D5185m 1270	<b>1155</b>	1034	1059
Sulfur	ppm ASTM D5185m 2060	<b>2857</b>	2626	2828

### CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>5</b>	8	11
Sodium	ppm ASTM D5185m	<b>4</b>	13	14
Potassium	ppm ASTM D5185m >20	<b>6</b>	3	3

### INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>1.9</b>	1.2	0.6
Nitration	Abs/cm *ASTM D7624 >20	<b>9.8</b>	10.0	7.7
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>22.8</b>	23.6	22.8

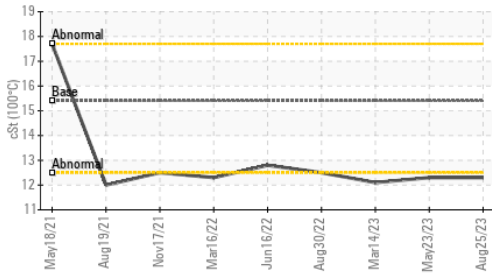
### FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>16.8</b>	20.5	19.5
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>8.0</b>	8.8	9.4

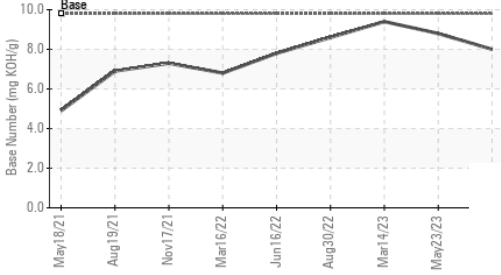


# OIL ANALYSIS REPORT

▲ Viscosity @ 100°C



Base Number

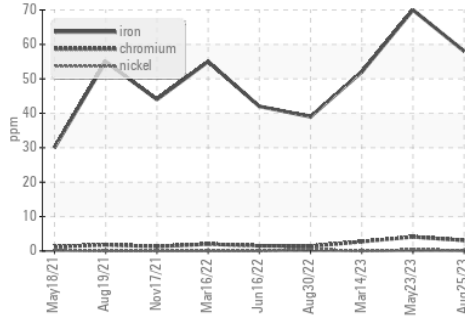


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

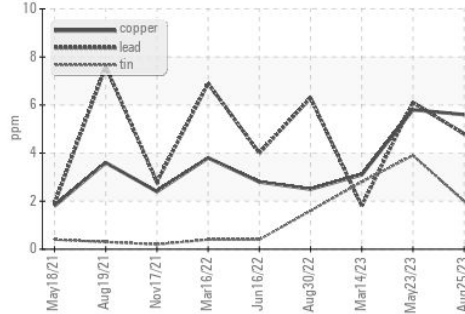
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4 ▲ 12.3	▲ 12.3	▲ 12.1

## GRAPHS

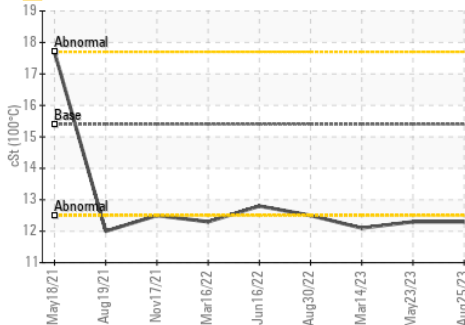
Ferrous Alloys



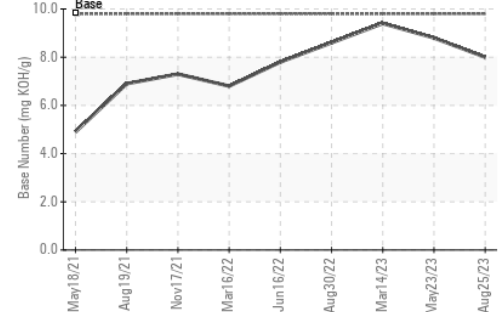
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0090502 **Received** : 28 Aug 2023  
**Lab Number** : 05936536 **Diagnosed** : 29 Aug 2023  
**Unique Number** : 10621807 **Diagnostician** : Don Baldrige  
**Test Package** : FLEET

**GFL Environmental - 622 - Traverse City Hauling**  
 160 Hughes Dr  
 Traverse City, MI  
 US 49686  
 Contact: GARY BREWER

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)

T:  
F: