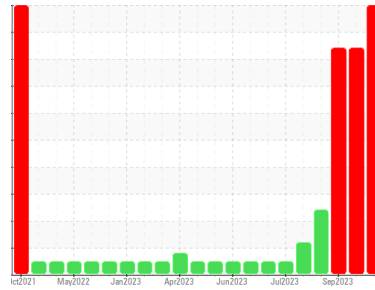




# PROBLEM SUMMARY

Sample Rating Trend



GLYCOL



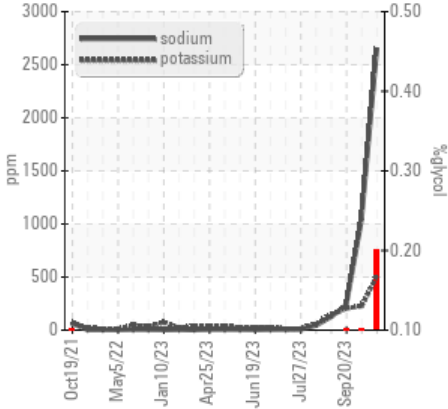
Machine Id  
**811046**

Component  
**Diesel Engine**

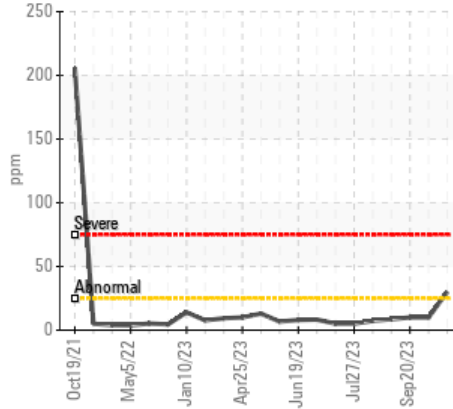
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## COMPONENT CONDITION SUMMARY

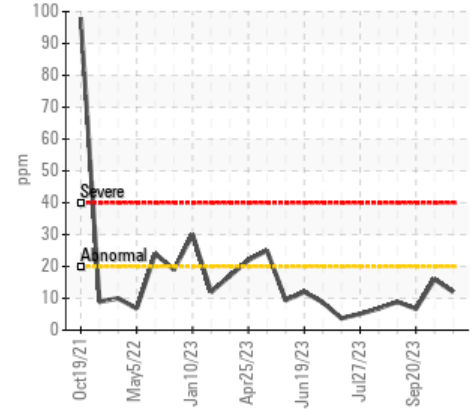
### ● Glycol Contamination



### ▲ Silicon (ppm)



### ▲ Aluminum (ppm)



## RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. 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. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	SEVERE
Aluminum	ppm	ASTM D5185m	>20	▲ 12	16	7
Silicon	ppm	ASTM D5185m	>25	▲ 30	10	10
Sodium	ppm	ASTM D5185m		▲ 2657	▲ 1051	▲ 242
Potassium	ppm	ASTM D5185m	>20	▲ 514	▲ 227	▲ 205
Glycol	%	*ASTM D2982		● 0.20	● 0.10	● 0.10

Customer Id: GFL814  
Sample No.: GFL0098842  
Lab Number: 05999699  
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 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.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

## HISTORICAL DIAGNOSIS

### 10 Oct 2023 Diag: Don Baldrige

#### GLYCOL



We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. Sodium and/or potassium levels are high. Test for glycol is positive. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report



### 20 Sep 2023 Diag: Wes Davis

#### GLYCOL



We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. Test for glycol is positive. There is a high concentration of glycol present in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report



### 07 Sep 2023 Diag: Jonathan Hester

#### GLYCOL



We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. Sodium and/or potassium levels are high. The BN result indicates that there is suitable alkalinity remaining in the oil.

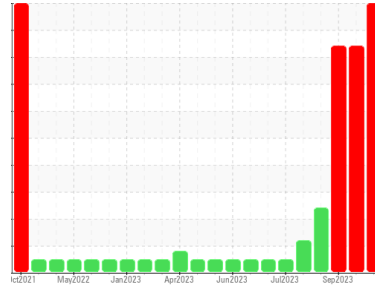
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id  
**811046**

Component  
**Diesel Engine**

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

## DIAGNOSIS

### Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. 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. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### Contamination

Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. 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>GFL0098842</b>	GFL0098814	GFL0091028
Sample Date	Client Info	<b>31 Oct 2023</b>	10 Oct 2023	20 Sep 2023
Machine Age	hrs	<b>5796</b>	5641	5482
Oil Age	hrs	<b>155</b>	159	89
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>SEVERE</b>	SEVERE	SEVERE

## CONTAMINATION

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

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	<b>23</b>	12	28
Chromium	ppm ASTM D5185m >20	<b>&lt;1</b>	3	<1
Nickel	ppm ASTM D5185m >4	<b>0</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>▲ 12</b>	16	7
Lead	ppm ASTM D5185m >40	<b>0</b>	0	<1
Copper	ppm ASTM D5185m >330	<b>&lt;1</b>	<1	1
Tin	ppm ASTM D5185m >15	<b>&lt;1</b>	<1	0
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>67</b>	21	2
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>189</b>	110	89
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	0	<1
Magnesium	ppm ASTM D5185m 1010	<b>935</b>	899	978
Calcium	ppm ASTM D5185m 1070	<b>988</b>	961	1098
Phosphorus	ppm ASTM D5185m 1150	<b>1103</b>	960	1051
Zinc	ppm ASTM D5185m 1270	<b>1278</b>	1191	1310
Sulfur	ppm ASTM D5185m 2060	<b>3262</b>	3486	3861

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>▲ 30</b>	10	10
Sodium	ppm ASTM D5185m	<b>▲ 2657</b>	▲ 1051	▲ 242
Potassium	ppm ASTM D5185m >20	<b>▲ 514</b>	▲ 227	▲ 205
Glycol	% *ASTM D2982	<b>● 0.20</b>	● 0.10	● 0.10

## INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>0.7</b>	0.4	1
Nitration	Abs/cm *ASTM D7624 >20	<b>13.8</b>	9.2	9.6
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>22.6</b>	19.1	20.1

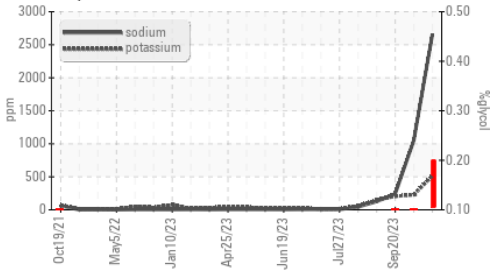
## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>15.5</b>	14.5	15.1
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>18.7</b>	12.9	7.8

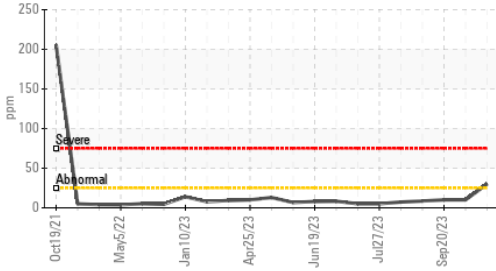


# OIL ANALYSIS REPORT

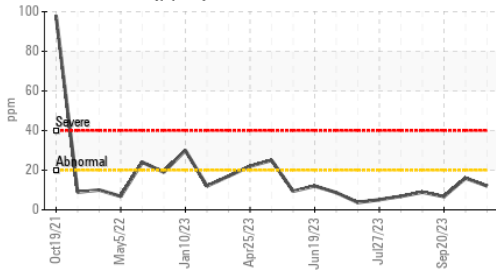
## Glycol Contamination



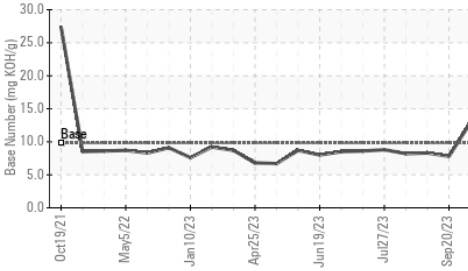
## Silicon (ppm)



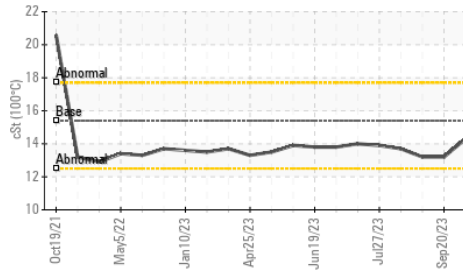
## Aluminum (ppm)



## Base Number



## Viscosity @ 100°C



## VISUAL

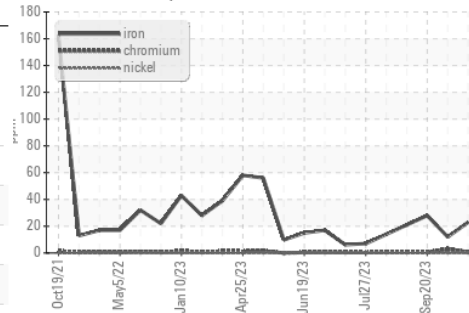
method	limit/base	current	history1	history2		
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE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

## FLUID PROPERTIES

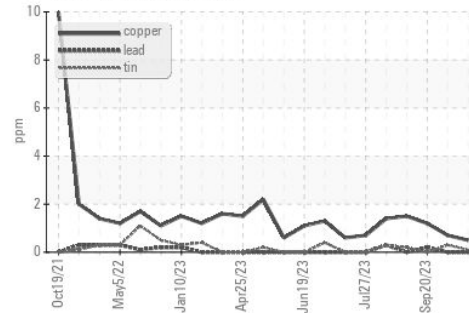
method	limit/base	current	history1	history2		
Visc @ 100°C	cSt	ASTM D445	15.4	14.4	14.3	13.2

## GRAPHS

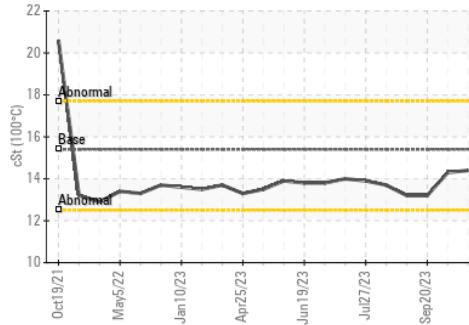
### Ferrous Alloys



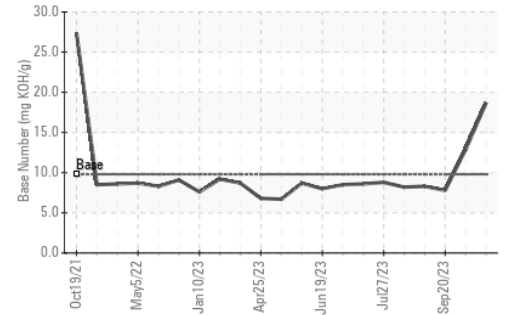
### Non-ferrous Metals



### Viscosity @ 100°C



### Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0098842  
**Lab Number** : 05999699  
**Unique Number** : 10728059  
**Test Package** : FLEET

**GFL Environmental - 814 - Little Rock Hauling**  
 4005 Hwy 161 N.  
 Little Rock, AR  
 US 72117  
 Contact: Brad Manager

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: