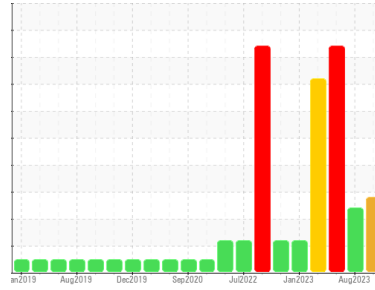




# PROBLEM SUMMARY

Sample Rating Trend



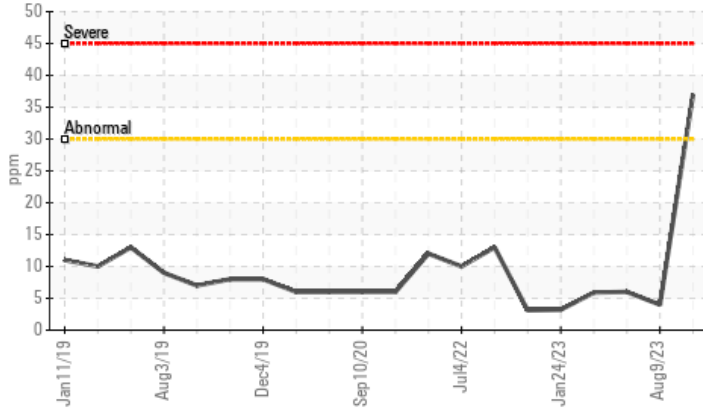
Machine Id  
**726043-361607**

Component  
**Diesel Engine**

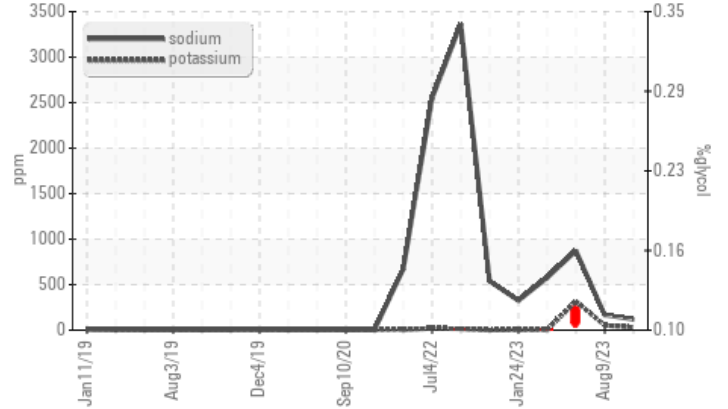
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## COMPONENT CONDITION SUMMARY

▲ Silicon (ppm)



▲ Glycol Contamination



## RECOMMENDATION

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			ABNORMAL	ABNORMAL	SEVERE
Silicon	ppm	ASTM D5185m >30	▲ 37	4	6
Sodium	ppm	ASTM D5185m	▲ 119	▲ 167	▲ 872

Customer Id: GFL865  
Sample No.: GFL0093243  
Lab Number: 05953776  
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.

## HISTORICAL DIAGNOSIS

### 09 Aug 2023 Diag: Jonathan Hester

#### GLYCOL



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

view report



### 13 Jun 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. Test for glycol is positive. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report



### 28 Mar 2023 Diag: Doug Bogart

#### GLYCOL



We advise that you check possible 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 negative. The BN result indicates that there is suitable alkalinity remaining in the oil.

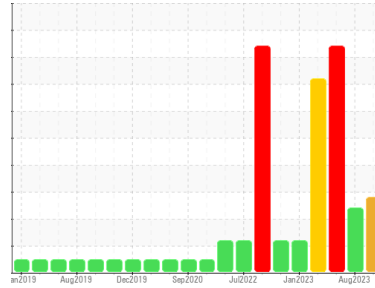
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id  
**726043-361607**

Component  
**Diesel Engine**

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

## DIAGNOSIS

### Recommendation

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 remain high. Elemental level of silicon (Si) above normal indicating ingress of seal material. Test for glycol is negative.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0093243</b>	GFL0083449	GFL0083407
Sample Date	Client Info	<b>12 Sep 2023</b>	09 Aug 2023	13 Jun 2023
Machine Age	hrs	<b>19075</b>	18912	18726
Oil Age	hrs	<b>19075</b>	18912	18726
Oil Changed	Client Info	<b>Changed</b>	Not Changd	Changed
Sample Status		<b>ABNORMAL</b>	ABNORMAL	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 >110	<b>5</b>	7	22
Chromium	ppm	ASTM D5185m >4	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >2	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>2</b>	0	0
Lead	ppm	ASTM D5185m >45	<b>&lt;1</b>	0	3
Copper	ppm	ASTM D5185m >85	<b>1</b>	1	2
Tin	ppm	ASTM D5185m >4	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	<1

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	<b>7</b>	6	0
Barium	ppm	ASTM D5185m 0	<b>2</b>	0	1
Molybdenum	ppm	ASTM D5185m 60	<b>67</b>	70	131
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>871</b>	954	962
Calcium	ppm	ASTM D5185m 1070	<b>1168</b>	1163	1075
Phosphorus	ppm	ASTM D5185m 1150	<b>1014</b>	1005	997
Zinc	ppm	ASTM D5185m 1270	<b>1198</b>	1203	1247
Sulfur	ppm	ASTM D5185m 2060	<b>3396</b>	3612	3573

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >30	<b>▲ 37</b>	4	6
Sodium	ppm	ASTM D5185m	<b>▲ 119</b>	▲ 167	▲ 872
Potassium	ppm	ASTM D5185m >20	<b>30</b>	▲ 53	▲ 316
Glycol	%	*ASTM D2982	<b>NEG</b>	NEG	🔴 0.12

## INFRA-RED

method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >3	<b>0.4</b>	0.5	1.1
Nitration	Abs/cm	*ASTM D7624 >20	<b>6.4</b>	6.6	10.6
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>19.2</b>	18.6	22.1

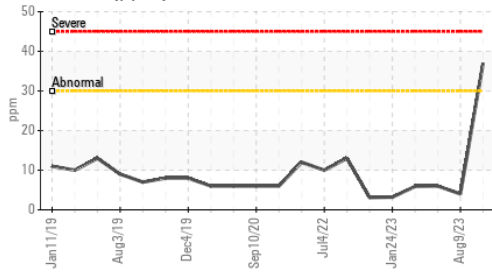
## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>14.3</b>	13.9	16.4
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>9.2</b>	9.2	11.3

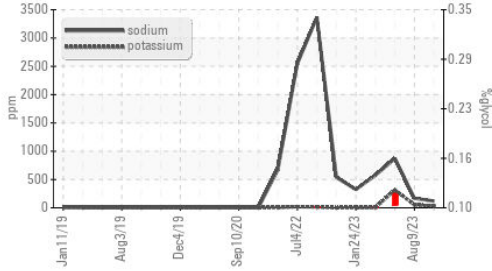


# OIL ANALYSIS REPORT

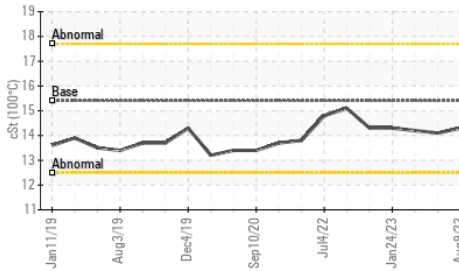
## ▲ Silicon (ppm)



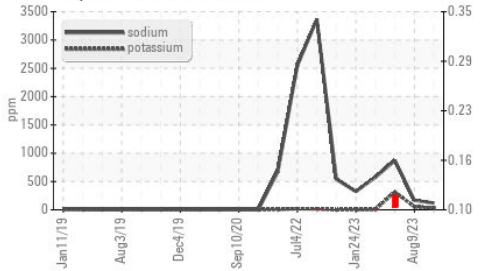
## Glycol Contamination



## Viscosity @ 100°C



## Glycol Contamination

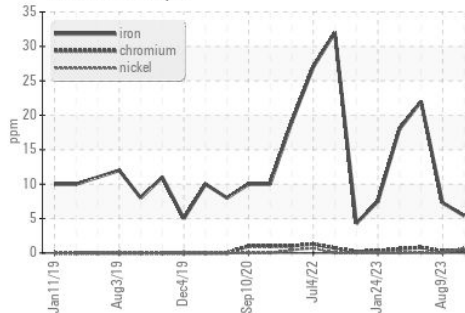


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

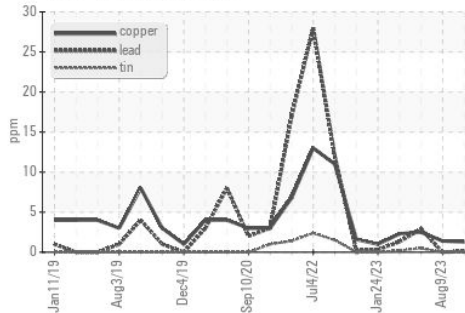
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	14.1

## GRAPHS

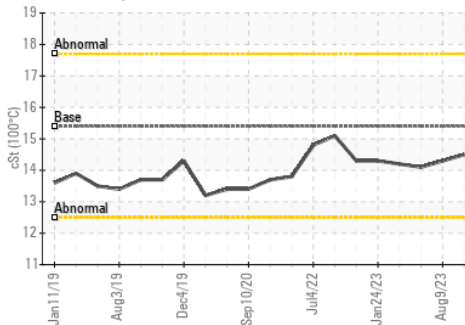
### Ferrous Alloys



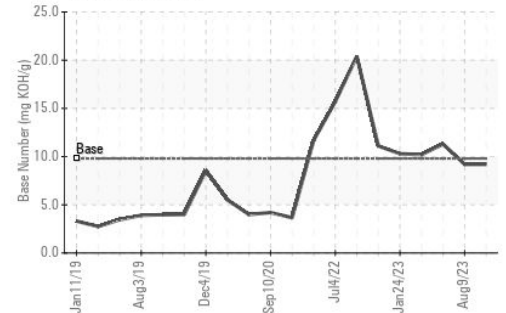
### Non-ferrous Metals



### Viscosity @ 100°C



### Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0093243 **Received** : 18 Sep 2023  
**Lab Number** : 05953776 **Diagnosed** : 20 Sep 2023  
**Unique Number** : 10654989 **Diagnostician** : Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: Glycol )

**GFL Environmental - 865 - East Mount Hauling**  
 7213 East Mount Houston Road  
 Houston, TX  
 US 77050  
 Contact: Saul Castillo  
 saul.castillo@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)

T:  
F: