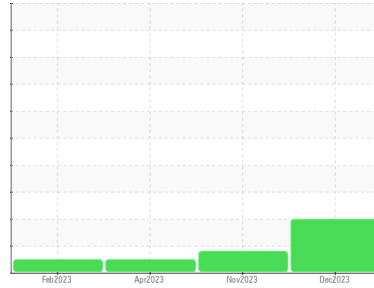




# PROBLEM SUMMARY

Sample Rating Trend



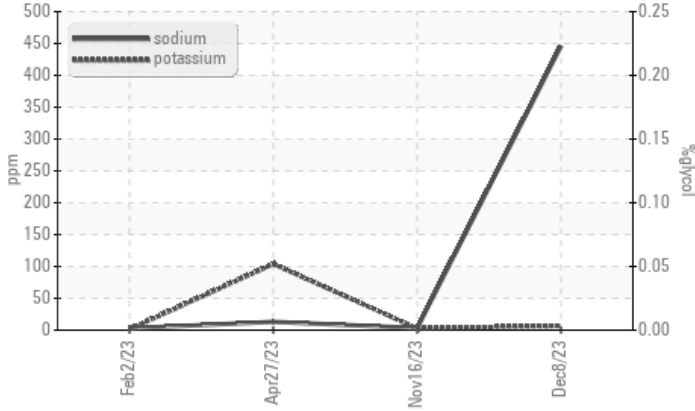
**GLYCOL**



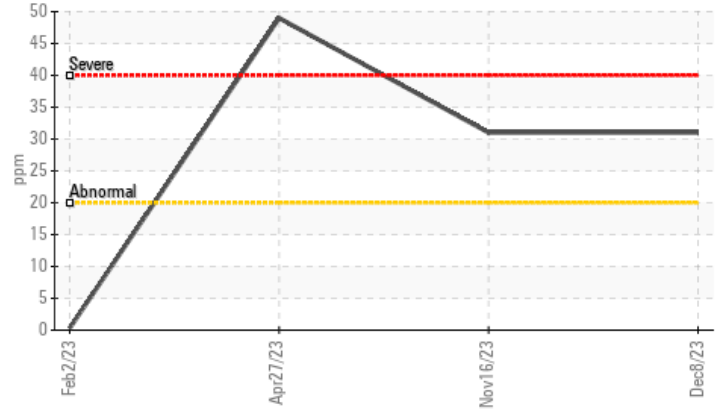
Machine Id  
**913075**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## COMPONENT CONDITION SUMMARY

### ▲ Glycol Contamination



### ▲ Aluminum (ppm)



## RECOMMENDATION

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.

## PROBLEMATIC TEST RESULTS

Sample Status				<b>ABNORMAL</b>	ABNORMAL	NORMAL
Aluminum	ppm	ASTM D5185m	>20	▲ <b>31</b>	▲ 31	49
Sodium	ppm	ASTM D5185m		▲ <b>446</b>	3	13

Customer Id: GFL415  
 Sample No.: GFL0105585  
 Lab Number: 06032239  
 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
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

## HISTORICAL DIAGNOSIS

### 16 Nov 2023 Diag: Don Baldrige

#### WEAR



No corrective action is recommended at this time. Resample at the next service interval to monitor. The aluminum level is abnormal. All other 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](#)



### 27 Apr 2023 Diag: Doug Bogart

#### NORMAL



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. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Test for glycol is negative. 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 Feb 2023 Diag: Sean Felton

#### 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](#)





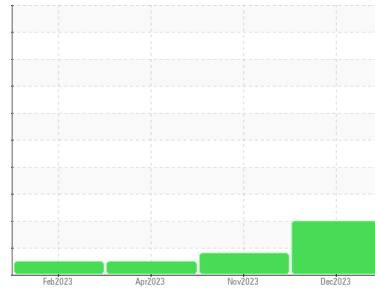
# OIL ANALYSIS REPORT

## Sample Rating Trend

GLYCOL



Machine Id  
**913075**  
 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 recommend an early resample to monitor this condition.

### Wear

The aluminum level is abnormal. All other component wear rates are normal.

### Contamination

Sodium and/or potassium levels are high.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0105585</b>	GFL0101533	GFL0081395
Sample Date	Client Info		<b>08 Dec 2023</b>	16 Nov 2023	27 Apr 2023
Machine Age	hrs	Client Info	<b>3504</b>	3504	1894
Oil Age	hrs	Client Info	<b>3504</b>	1894	1248
Oil Changed	Client Info		<b>Not Chngd</b>	N/A	Changed
Sample Status			<b>ABNORMAL</b>	ABNORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >90	<b>52</b>	43	64
Chromium	ppm	ASTM D5185m >20	<b>2</b>	1	2
Nickel	ppm	ASTM D5185m >2	<b>4</b>	5	0
Titanium	ppm	ASTM D5185m >2	<b>0</b>	<1	0
Silver	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185m >20	<b>▲ 31</b>	▲ 31	49
Lead	ppm	ASTM D5185m >40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m >330	<b>7</b>	8	3
Tin	ppm	ASTM D5185m >15	<b>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>13</b>	0	0
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>75</b>	62	63
Manganese	ppm	ASTM D5185m 0	<b>1</b>	<1	1
Magnesium	ppm	ASTM D5185m 1010	<b>959</b>	899	1030
Calcium	ppm	ASTM D5185m 1070	<b>1077</b>	1073	1180
Phosphorus	ppm	ASTM D5185m 1150	<b>1058</b>	949	1059
Zinc	ppm	ASTM D5185m 1270	<b>1329</b>	1192	1347
Sulfur	ppm	ASTM D5185m 2060	<b>2633</b>	2432	3251

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>17</b>	10	7
Sodium	ppm	ASTM D5185m	<b>▲ 446</b>	3	13
Potassium	ppm	ASTM D5185m >20	<b>6</b>	3	104
Glycol	%	*ASTM D2982	<b>NEG</b>	NEG	NEG

## INFRA-RED

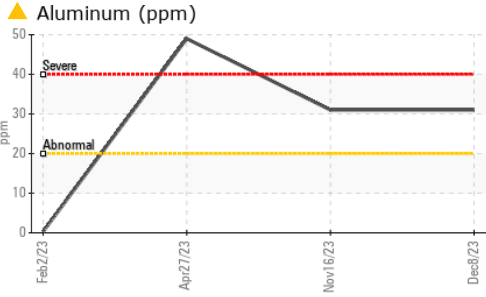
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	<b>1.6</b>	1.4	1.3
Nitration	Abs/cm	*ASTM D7624 >20	<b>12.6</b>	10.2	11.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>24.5</b>	23.8	21.9

## FLUID DEGRADATION

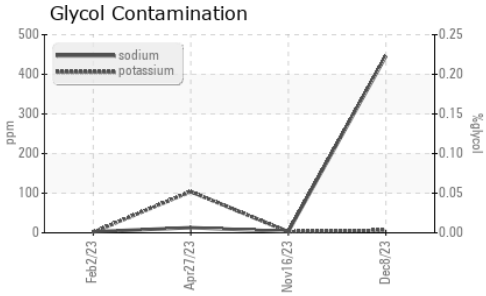
	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>20.3</b>	19.2	19.7
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>6.9</b>	5.5	5.3



# OIL ANALYSIS REPORT

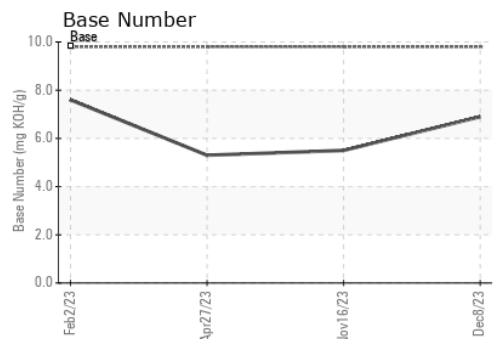
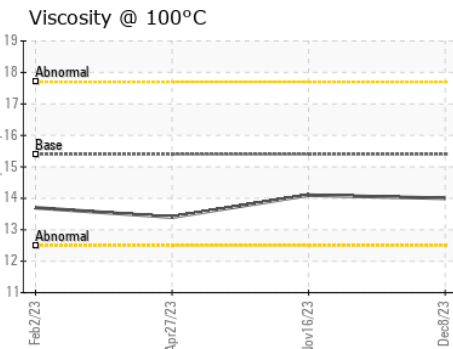
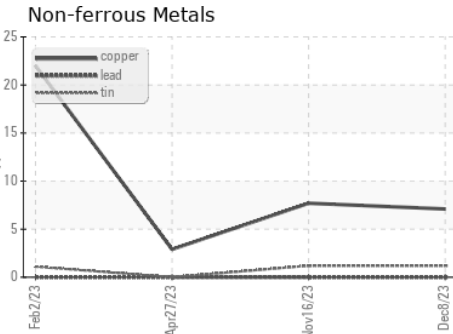
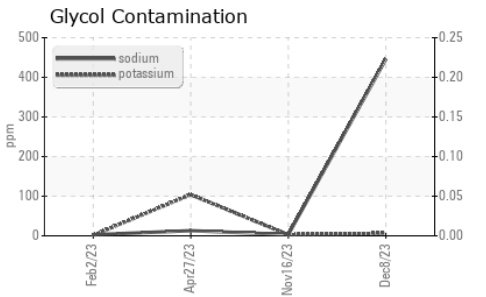
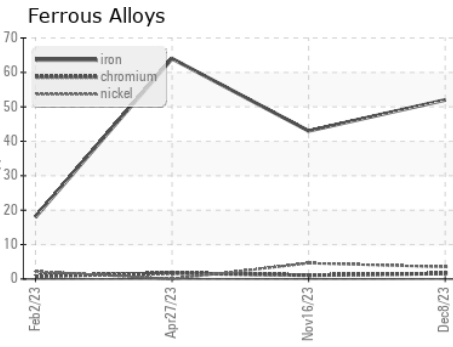
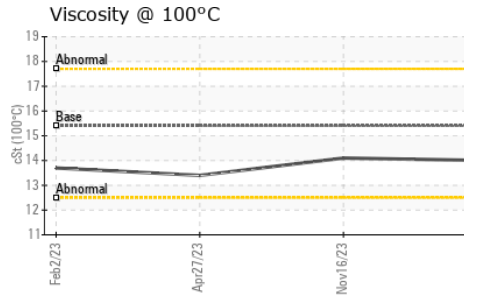


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	<b>14.0</b>	14.1	13.4

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0105585 **Recieved** : 12 Dec 2023  
**Lab Number** : **06032239** **Diagnosed** : 15 Dec 2023  
**Unique Number** : 10782030 **Diagnostician** : Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: Glycol )

**GFL Environmental - 415 - Michigan East**  
 6200 Elmridge  
 Sterling Heights, MI  
 US 48313  
 Contact: Frank Wolak  
 fwolak@gflenv.com  
 T: (586)825-9514  
 F:

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)