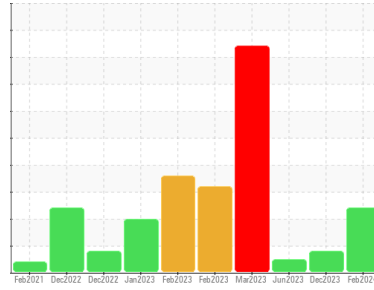




# PROBLEM SUMMARY

Sample Rating Trend

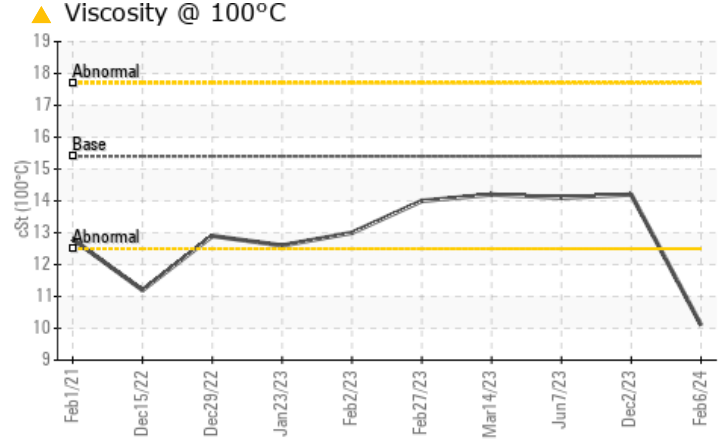
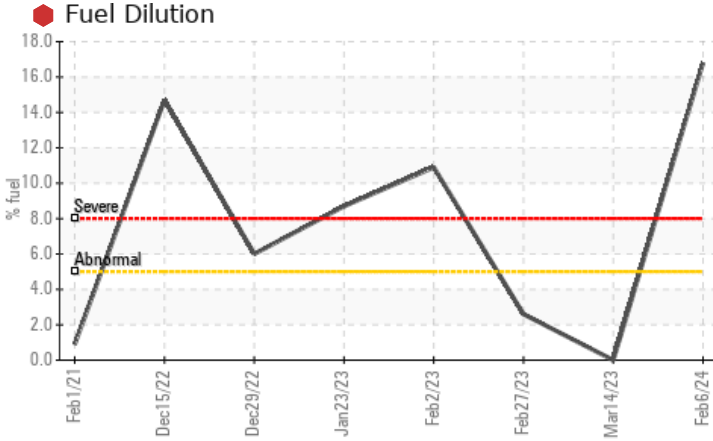


## FUEL



Machine Id  
**723022-361626**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

We advise that you check the fuel injection system. 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	ABNORMAL	NORMAL
Fuel	%	ASTM D3524	>5	16.8	<1.0	<1.0
Visc @ 100°C	cSt	ASTM D445	15.4	10.1	14.2	14.1

Customer Id: GFL856  
 Sample No.: GFL0092122  
 Lab Number: 06084275  
 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 Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

## HISTORICAL DIAGNOSIS

02 Dec 2023 Diag: Jonathan Hester

SOOT



We recommend you service the filters on this component. Resample at the next service interval to monitor. All component wear rates are normal. There is an abnormal amount of solids and carbon present 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



07 Jun 2023 Diag: Jonathan Hester

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



14 Mar 2023 Diag: Jonathan Hester

GLYCOL



We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil and perform a filter service on this component if not already done. 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.

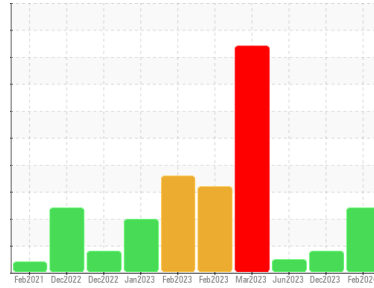
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**723022-361626**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

We advise that you check the fuel injection system. 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

There is a high amount of fuel present in the oil.

### Fluid Condition

Fuel is present in the oil and is lowering the viscosity. 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>GFL0092122</b>	GFL0092088	GFL0084674
Sample Date	Client Info	<b>06 Feb 2024</b>	02 Dec 2023	07 Jun 2023
Machine Age	hrs	<b>18953</b>	233406	233406
Oil Age	hrs	<b>600</b>	228171	0
Oil Changed	Client Info	<b>Changed</b>	Not Changd	Not Changd
Sample Status		<b>SEVERE</b>	ABNORMAL	NORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.2	<b>NEG</b>	NEG	NEG
Glycol	WC Method	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >80	<b>84</b>	66	33
Chromium	ppm ASTM D5185m >5	<b>3</b>	3	1
Nickel	ppm ASTM D5185m >2	<b>&lt;1</b>	0	<1
Titanium	ppm ASTM D5185m	<b>&lt;1</b>	0	0
Silver	ppm ASTM D5185m >3	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >30	<b>7</b>	5	4
Lead	ppm ASTM D5185m >30	<b>3</b>	2	0
Copper	ppm ASTM D5185m >150	<b>5</b>	7	2
Tin	ppm ASTM D5185m >5	<b>2</b>	<1	<1
Vanadium	ppm ASTM D5185m	<b>&lt;1</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>10</b>	1	4
Barium	ppm ASTM D5185m 0	<b>0</b>	2	0
Molybdenum	ppm ASTM D5185m 60	<b>45</b>	56	59
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	0	<1
Magnesium	ppm ASTM D5185m 1010	<b>637</b>	826	954
Calcium	ppm ASTM D5185m 1070	<b>995</b>	1014	1114
Phosphorus	ppm ASTM D5185m 1150	<b>727</b>	871	1014
Zinc	ppm ASTM D5185m 1270	<b>911</b>	1090	1238
Sulfur	ppm ASTM D5185m 2060	<b>1980</b>	2589	3437

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >20	<b>14</b>	13	9
Sodium	ppm ASTM D5185m	<b>11</b>	11	59
Potassium	ppm ASTM D5185m >20	<b>0</b>	4	4
Fuel	% ASTM D3524 >5	<b>16.8</b>	<1.0	<1.0

## INFRA-RED

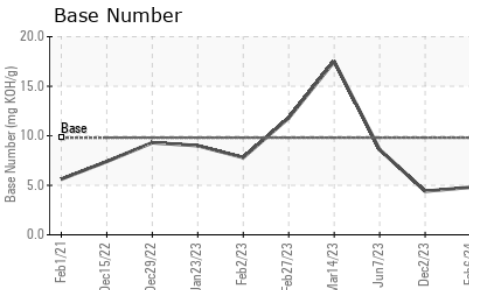
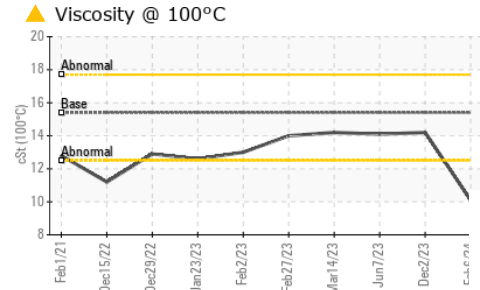
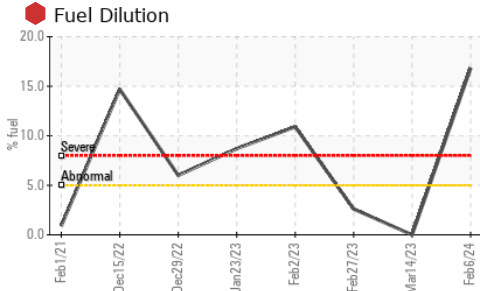
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>1.5</b>	▲ 4.2	2.4
Nitration	Abs/cm *ASTM D7624 >20	<b>16.0</b>	16.1	12.4
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>27.6</b>	30.0	25.1

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>33.1</b>	23.7	21.6
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>4.8</b>	4.4	8.6



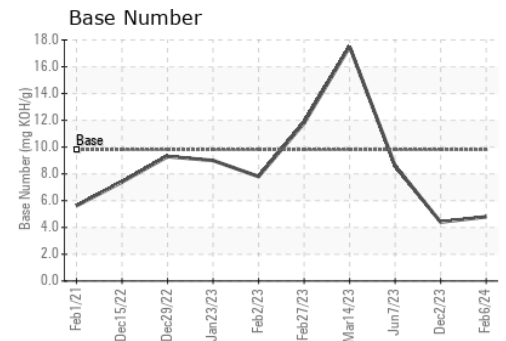
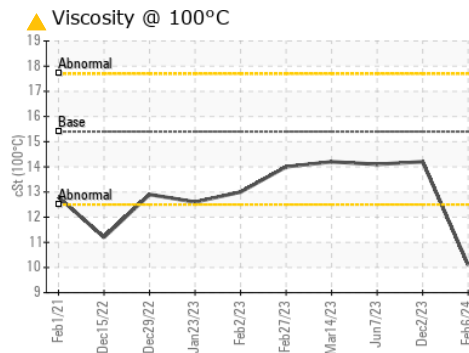
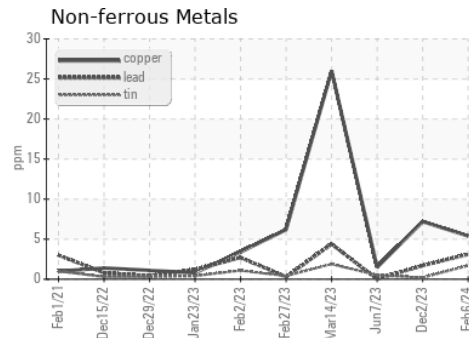
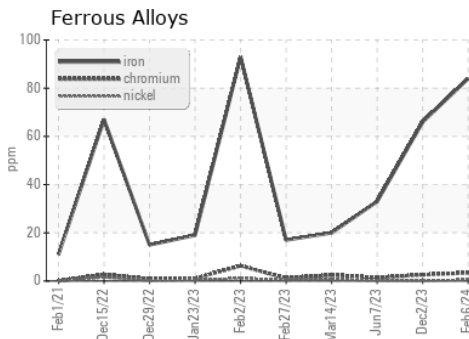
# OIL ANALYSIS REPORT



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 ▲ 10.1	14.2	14.1

## GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0092122 Received : 08 Feb 2024  
 Lab Number : 06084275 Tested : 13 Feb 2024  
 Unique Number : 10871720 Diagnosed : 13 Feb 2024 - Jonathan Hester  
 Test Package : FLEET ( Additional Tests: FuelDilution, PercentFuel )

GFL Environmental - 856 - Houston South  
 8515 Highway 6 South  
 Houston, TX  
 US 77083  
 Contact: Apolinar Zacarias  
 pzacariascano@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: