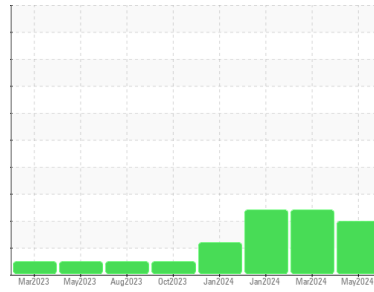




# PROBLEM SUMMARY

Sample Rating Trend



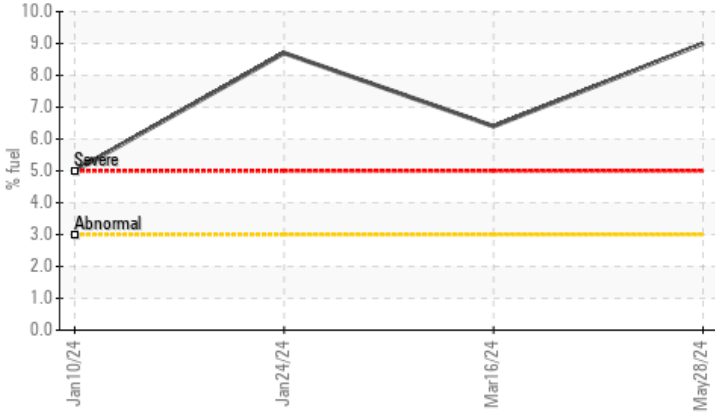
FUEL



Machine Id  
**420092 - SW4020**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## COMPONENT CONDITION SUMMARY

▲ Fuel Dilution



## 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. ( Customer Sample Comment: Engine )

## PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	SEVERE
Fuel	%	ASTM D3524	>3.0	▲ 9.0	▲ 6.4	▲ 8.7

Customer Id: GFL983  
 Sample No.: GFL0123604  
 Lab Number: 06197287  
 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

### 16 Mar 2024 Diag: Wes Davis

We advise that you check the fuel injection system. 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. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel 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.

FUEL



view report



### 24 Jan 2024 Diag: Jonathan Hester

We advise that you check the fuel injection system. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a high amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

FUEL



view report



### 10 Jan 2024 Diag: Don Baldrige

We advise that you check the fuel injection system. 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 a moderate amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

FUEL



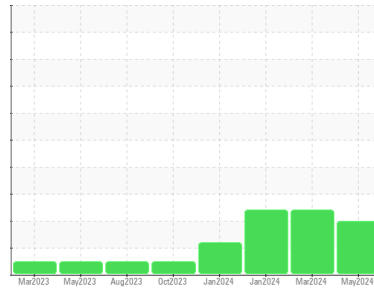
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# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**420092 - SW4020**  
 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. ( Customer Sample Comment: Engine )

**Wear**  
 All component wear rates are normal.

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

**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>GFL0123604</b>	GFL0112092	GFL0105512
Sample Date	Client Info		<b>28 May 2024</b>	16 Mar 2024	24 Jan 2024
Machine Age	mls	Client Info	<b>151032</b>	150271	143203
Oil Age	mls	Client Info	<b>151032</b>	150271	143203
Oil Changed	Client Info		<b>Changed</b>	Changed	N/A
Sample Status			<b>SEVERE</b>	SEVERE	SEVERE

## 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 >120	<b>&lt;1</b>	9	3
Chromium	ppm	ASTM D5185m >20	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185m >5	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m >2	<b>0</b>	<1	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	<1	<1
Aluminum	ppm	ASTM D5185m >20	<b>6</b>	3	2
Lead	ppm	ASTM D5185m >40	<b>0</b>	2	2
Copper	ppm	ASTM D5185m >330	<b>&lt;1</b>	2	0
Tin	ppm	ASTM D5185m >15	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>0</b>	0	0
Barium	ppm	ASTM D5185m 0	<b>0</b>	2	0
Molybdenum	ppm	ASTM D5185m 60	<b>50</b>	58	52
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>29</b>	8	16
Calcium	ppm	ASTM D5185m 1070	<b>2440</b>	2782	2489
Phosphorus	ppm	ASTM D5185m 1150	<b>1118</b>	1146	1118
Zinc	ppm	ASTM D5185m 1270	<b>1273</b>	1316	1285
Sulfur	ppm	ASTM D5185m 2060	<b>3597</b>	3590	3135

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>4</b>	5	4
Sodium	ppm	ASTM D5185m	<b>3</b>	0	1
Potassium	ppm	ASTM D5185m >20	<b>21</b>	4	3
Fuel	%	ASTM D3524 >3.0	<b>▲ 9.0</b>	▲ 6.4	▲ 8.7

## INFRA-RED

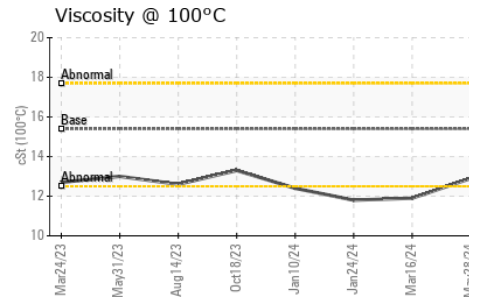
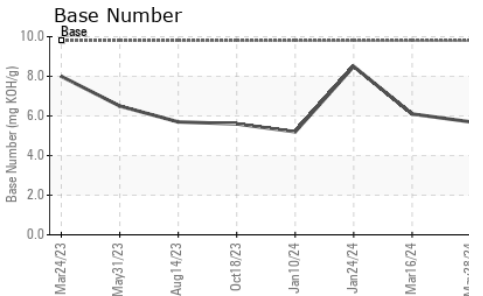
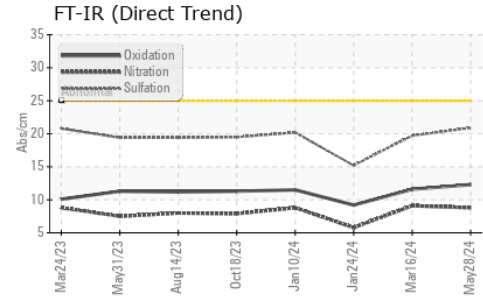
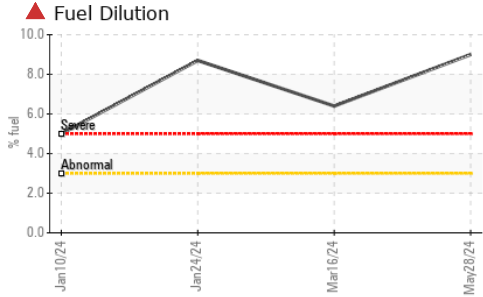
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>0.2</b>	0.3	0.1
Nitration	Abs/cm	*ASTM D7624 >20	<b>8.8</b>	9.1	5.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>20.9</b>	19.7	15.2

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>12.3</b>	11.6	9.2
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>5.7</b>	6.1	8.5



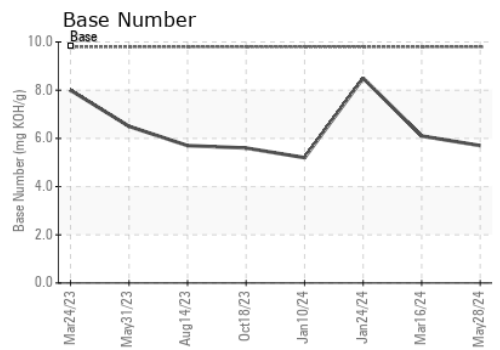
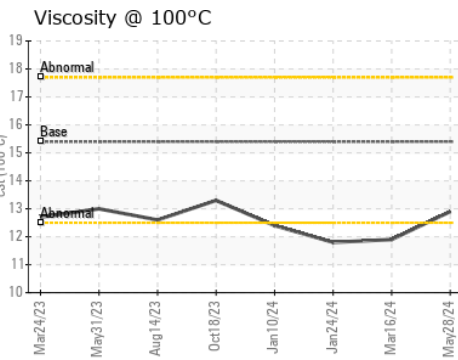
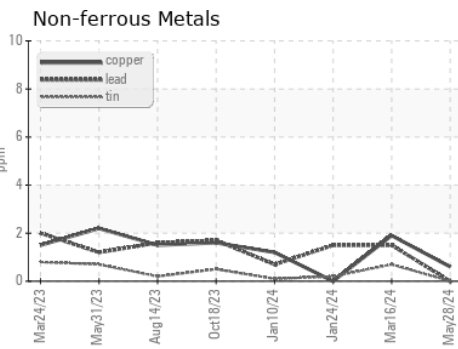
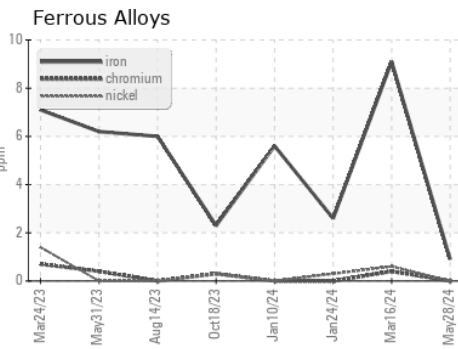
# OIL ANALYSIS REPORT



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	12.9	11.9

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0123604 **Received** : 03 Jun 2024  
**Lab Number** : 06197287 **Tested** : 05 Jun 2024  
**Unique Number** : 11059410 **Diagnosed** : 05 Jun 2024 - Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: PercentFuel )

**GFL Environmental - 983 - Sugar Land Hauling**  
 16011 West Belfort Street  
 Sugar Land, TX  
 US 77498  
 Contact: Adrian Martinez  
 adrianmartinez@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)