



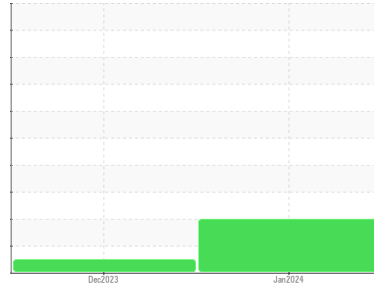
# OIL ANALYSIS REPORT

Sample Rating Trend

DEGRADATION



Machine Id  
**775M**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**



## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

### Wear

All component wear rates are normal.

### Contamination

There is an abnormal amount of solids and carbon present in the oil.

### Fluid Condition

The BN level is low. The condition of the oil is acceptable for the time in service.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0104190</b>	GFL0059302	---
Sample Date	Client Info	<b>02 Jan 2024</b>	07 Dec 2023	---
Machine Age	hrs	<b>7356</b>	7242	---
Oil Age	hrs	<b>114</b>	7242	---
Oil Changed	Client Info	<b>N/A</b>	Changed	---
Sample Status		<b>ABNORMAL</b>	NORMAL	---

## CONTAMINATION

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

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >90	<b>46</b>	40	---
Chromium	ppm ASTM D5185m >20	<b>1</b>	2	---
Nickel	ppm ASTM D5185m >2	<b>&lt;1</b>	0	---
Titanium	ppm ASTM D5185m >2	<b>&lt;1</b>	0	---
Silver	ppm ASTM D5185m >2	<b>0</b>	0	---
Aluminum	ppm ASTM D5185m >20	<b>5</b>	3	---
Lead	ppm ASTM D5185m >40	<b>2</b>	1	---
Copper	ppm ASTM D5185m >330	<b>2</b>	3	---
Tin	ppm ASTM D5185m >15	<b>&lt;1</b>	0	---
Vanadium	ppm ASTM D5185m	<b>&lt;1</b>	0	---
Cadmium	ppm ASTM D5185m	<b>&lt;1</b>	0	---

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>&lt;1</b>	<1	---
Barium	ppm ASTM D5185m 0	<b>7</b>	0	---
Molybdenum	ppm ASTM D5185m 60	<b>43</b>	53	---
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	<1	---
Magnesium	ppm ASTM D5185m 1010	<b>699</b>	951	---
Calcium	ppm ASTM D5185m 1070	<b>832</b>	1028	---
Phosphorus	ppm ASTM D5185m 1150	<b>583</b>	1003	---
Zinc	ppm ASTM D5185m 1270	<b>996</b>	1196	---
Sulfur	ppm ASTM D5185m 2060	<b>1748</b>	2718	---

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>6</b>	7	---
Sodium	ppm ASTM D5185m	<b>9</b>	37	---
Potassium	ppm ASTM D5185m >20	<b>4</b>	<1	---

## INFRA-RED

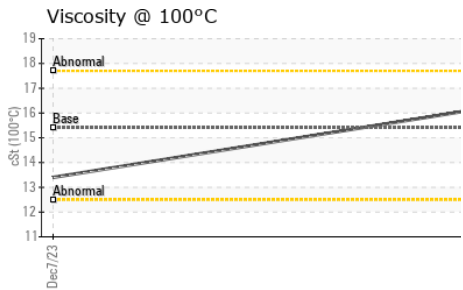
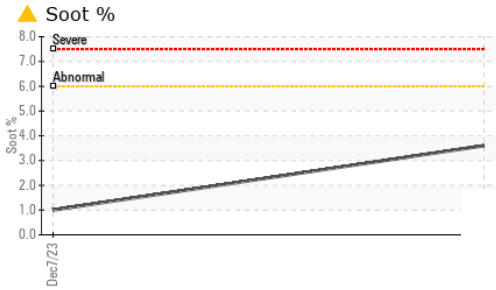
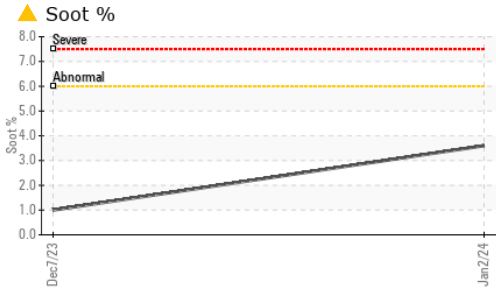
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >6	<b>▲ 3.6</b>	1	---
Nitration	Abs/cm *ASTM D7624 >20	<b>15.8</b>	13.3	---
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>32.8</b>	24.5	---

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>27.4</b>	24.8	---
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>▲ 0.0</b>	7.1	---



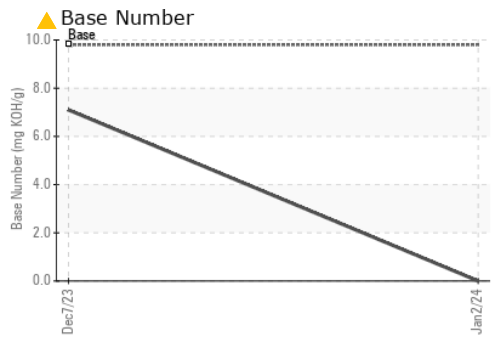
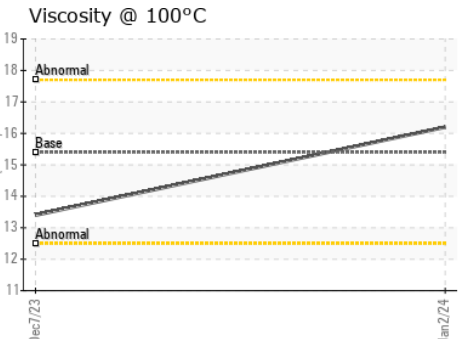
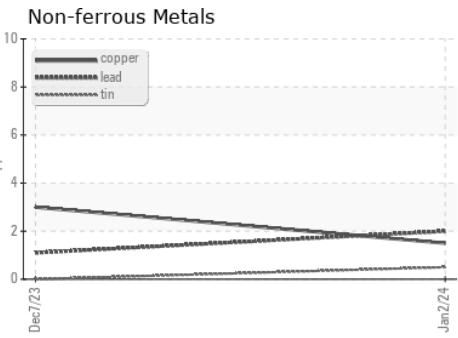
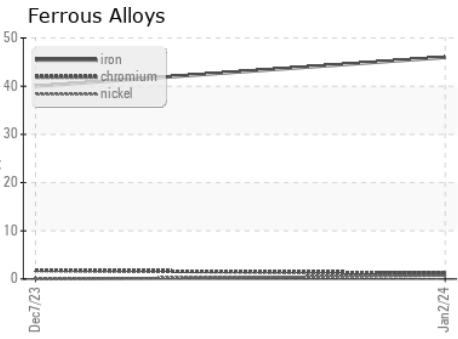
# OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	<b>16.2</b>	13.4	---

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0104190 **Received** : 08 Jan 2024  
**Lab Number** : **06053473** **Diagnosed** : 09 Jan 2024  
**Unique Number** : 10819422 **Diagnostician** : Jonathan Hester  
**Test Package** : FLEET

**GFL Environmental - 410 - Michigan West**  
 39000 Van Born Rd  
 Wayne, MI  
 US 48184  
 Contact: Belal Dgheish  
 bdgheish@gflenv.com  
 T: (734)714-2340  
 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)