



# OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id  
**414079**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## DIAGNOSIS

**Recommendation**  
 Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

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

**Contamination**  
 Fuel content negligible. Elemental level of silicon (Si) above normal indicating ingress of seal material.

**Fluid Condition**  
 The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0044801</b>	---	---
Sample Date	Client Info	<b>11 Mar 2024</b>	---	---
Machine Age	hrs Client Info	<b>569</b>	---	---
Oil Age	hrs Client Info	<b>0</b>	---	---
Oil Changed	Client Info	<b>Changed</b>	---	---
Sample Status		<b>ABNORMAL</b>	---	---

## CONTAMINATION

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

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >120	<b>33</b>	---	---
Chromium	ppm ASTM D5185m >20	<b>1</b>	---	---
Nickel	ppm ASTM D5185m >5	<b>3</b>	---	---
Titanium	ppm ASTM D5185m >2	<b>&lt;1</b>	---	---
Silver	ppm ASTM D5185m >2	<b>&lt;1</b>	---	---
Aluminum	ppm ASTM D5185m >20	<b>12</b>	---	---
Lead	ppm ASTM D5185m >40	<b>0</b>	---	---
Copper	ppm ASTM D5185m >330	<b>206</b>	---	---
Tin	ppm ASTM D5185m >15	<b>3</b>	---	---
Vanadium	ppm ASTM D5185m	<b>0</b>	---	---
Cadmium	ppm ASTM D5185m	<b>0</b>	---	---

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>217</b>	---	---
Barium	ppm ASTM D5185m 0	<b>0</b>	---	---
Molybdenum	ppm ASTM D5185m 60	<b>115</b>	---	---
Manganese	ppm ASTM D5185m 0	<b>3</b>	---	---
Magnesium	ppm ASTM D5185m 1010	<b>678</b>	---	---
Calcium	ppm ASTM D5185m 1070	<b>1370</b>	---	---
Phosphorus	ppm ASTM D5185m 1150	<b>712</b>	---	---
Zinc	ppm ASTM D5185m 1270	<b>876</b>	---	---
Sulfur	ppm ASTM D5185m 2060	<b>2511</b>	---	---

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>▲ 82</b>	---	---
Sodium	ppm ASTM D5185m	<b>2</b>	---	---
Potassium	ppm ASTM D5185m >20	<b>31</b>	---	---
Fuel	% ASTM D3524 >3.0	<b>0.4</b>	---	---

## INFRA-RED

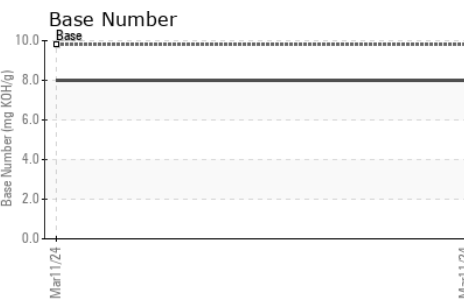
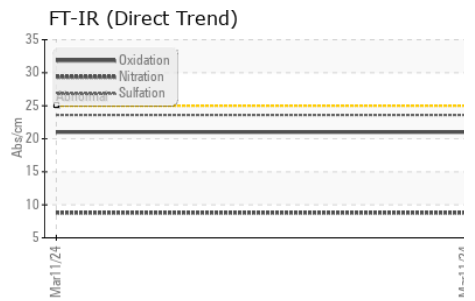
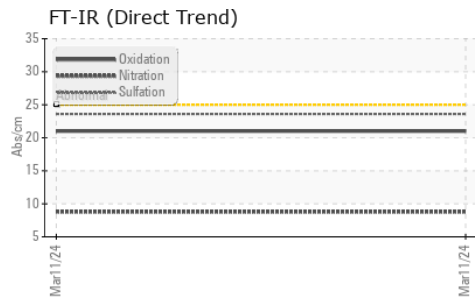
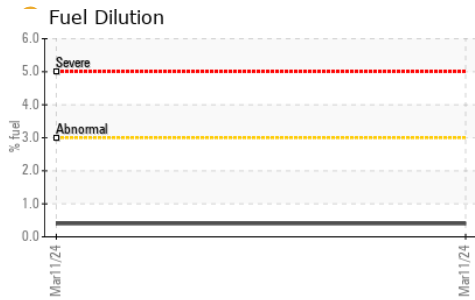
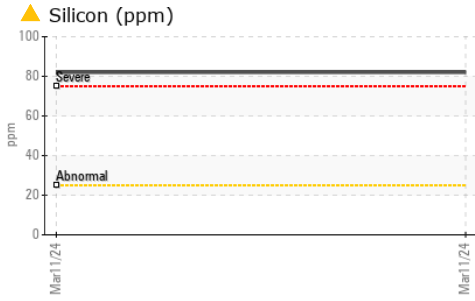
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	<b>0.3</b>	---	---
Nitration	Abs/cm *ASTM D7624 >20	<b>8.8</b>	---	---
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>23.6</b>	---	---

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>21.0</b>	---	---
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>8.0</b>	---	---



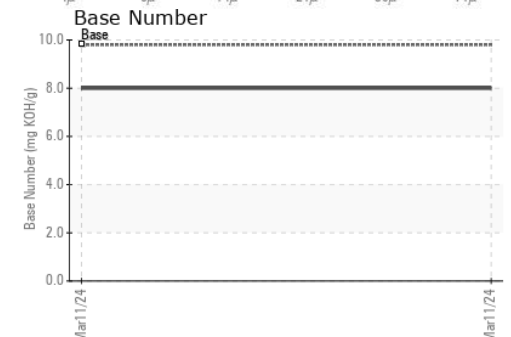
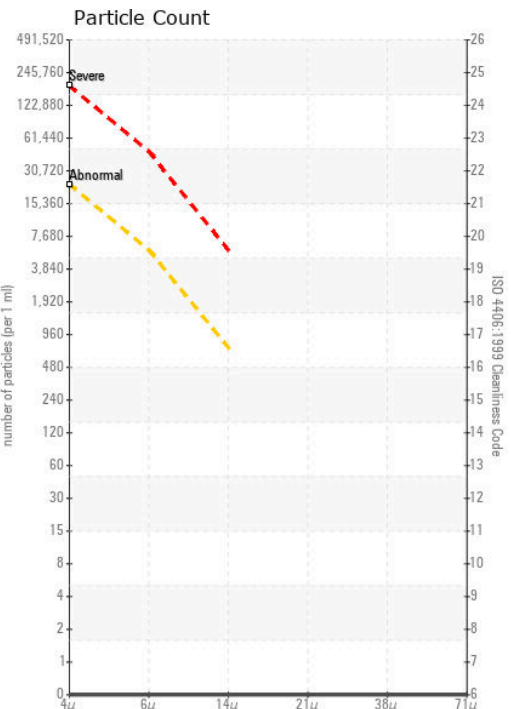
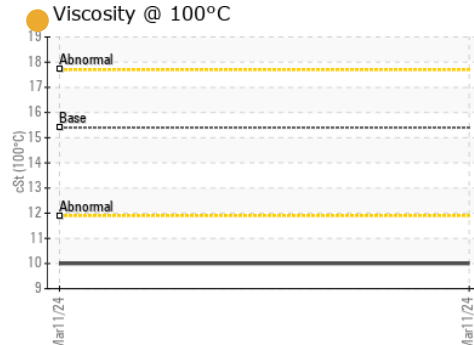
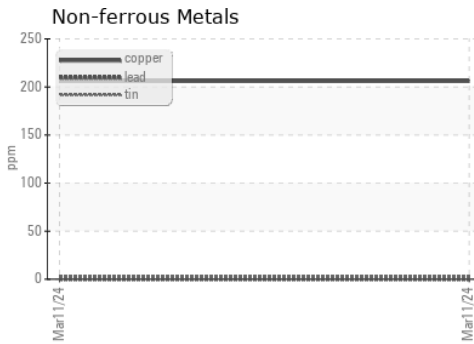
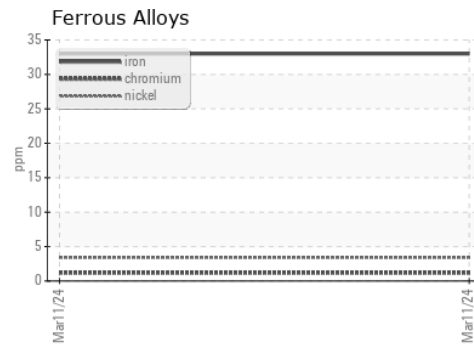
# OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445 15.4	<b>10.0</b>	---	---

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0044801 **Received** : 19 Mar 2024  
**Lab Number** : **06122214** **Tested** : 25 Mar 2024  
**Unique Number** : 10936365 **Diagnosed** : 25 Mar 2024 - Don Baldrige  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel, PrtCount )

**GFL Environmental - 660S - Roanoke**  
 2045 LEE HWY  
 Cloverdale, VA  
 US 24077  
 Contact: DELBERT BEASLEY

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)

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F: