



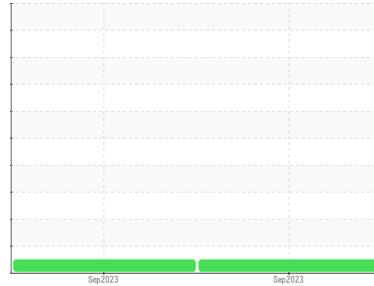
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**413103**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0093033</b>	GFL0093005	---
Sample Date	Client Info	<b>15 Sep 2023</b>	13 Sep 2023	---
Machine Age	hrs Client Info	<b>0</b>	0	---
Oil Age	hrs Client Info	<b>0</b>	0	---
Oil Changed	Client Info	<b>Changed</b>	N/A	---
Sample Status		<b>NORMAL</b>	NORMAL	---

## CONTAMINATION

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

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >120	<b>8</b>	22	---
Chromium	ppm ASTM D5185m >20	<b>&lt;1</b>	<1	---
Nickel	ppm ASTM D5185m >5	<b>0</b>	0	---
Titanium	ppm ASTM D5185m >2	<b>0</b>	0	---
Silver	ppm ASTM D5185m >2	<b>0</b>	1	---
Aluminum	ppm ASTM D5185m >20	<b>0</b>	3	---
Lead	ppm ASTM D5185m >40	<b>0</b>	0	---
Copper	ppm ASTM D5185m >330	<b>2</b>	134	---
Tin	ppm ASTM D5185m >15	<b>&lt;1</b>	2	---
Vanadium	ppm ASTM D5185m	<b>0</b>	0	---
Cadmium	ppm ASTM D5185m	<b>0</b>	0	---

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>15</b>	11	---
Barium	ppm ASTM D5185m 0	<b>0</b>	0	---
Molybdenum	ppm ASTM D5185m 60	<b>60</b>	66	---
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	1	---
Magnesium	ppm ASTM D5185m 1010	<b>893</b>	939	---
Calcium	ppm ASTM D5185m 1070	<b>1382</b>	1313	---
Phosphorus	ppm ASTM D5185m 1150	<b>986</b>	962	---
Zinc	ppm ASTM D5185m 1270	<b>1203</b>	1212	---
Sulfur	ppm ASTM D5185m 2060	<b>3790</b>	3174	---

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>3</b>	11	---
Sodium	ppm ASTM D5185m	<b>2</b>	3	---
Potassium	ppm ASTM D5185m >20	<b>2</b>	19	---

## INFRA-RED

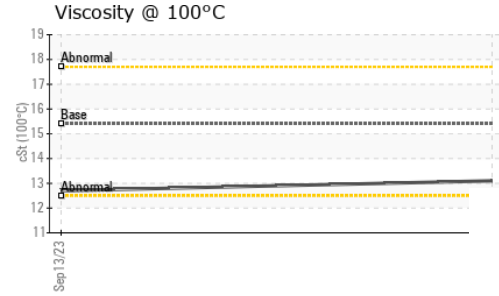
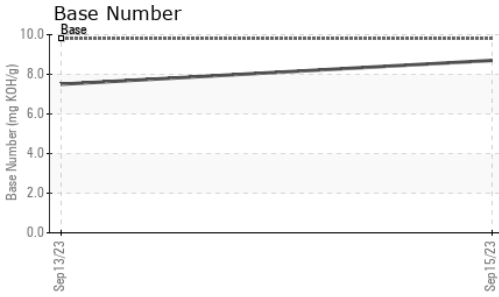
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	<b>0.4</b>	0.4	---
Nitration	Abs/cm *ASTM D7624 >20	<b>7.5</b>	8.7	---
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>18.1</b>	20.1	---

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>13.7</b>	16.5	---
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>8.7</b>	7.5	---



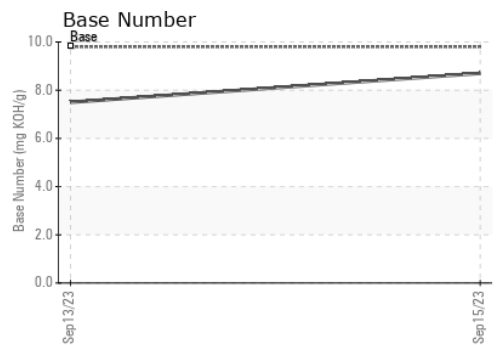
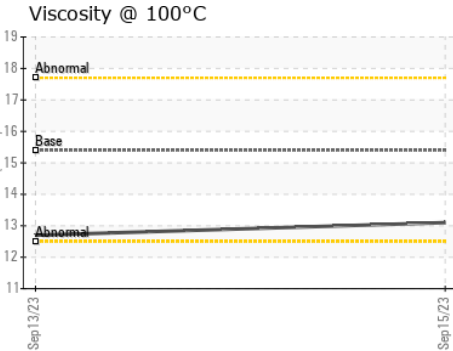
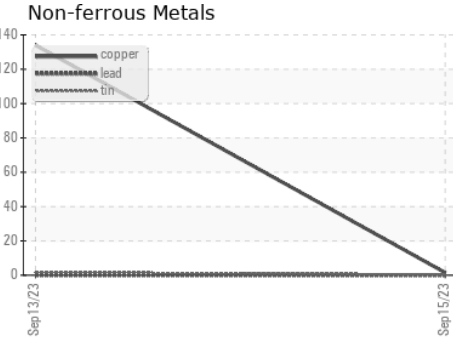
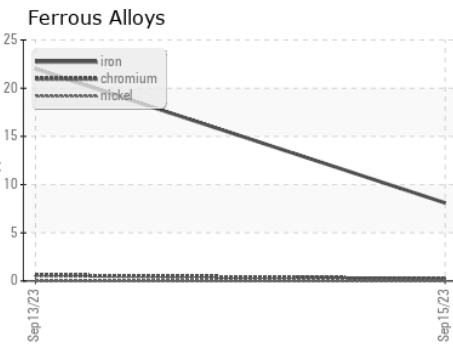
# OIL ANALYSIS REPORT



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>13.1</b>	12.7

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0093033 **Received** : 22 Sep 2023  
**Lab Number** : **05958498** **Diagnosed** : 23 Sep 2023  
**Unique Number** : 10659711 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**GFL Environmental - 413 - Whiteland Hauling**  
 2959 S EMERSON AVE  
 WHITELAND, IN  
 US 46184  
 Contact: Christyan Trent-Proctor  
 ctrentproctor@gflenv.com  
 T:  
 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)