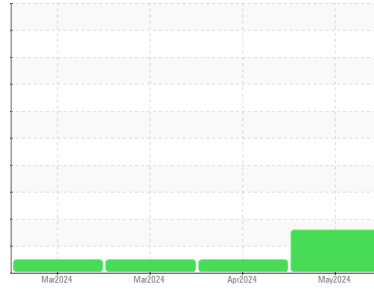




# OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id

**325053**

Component

**Diesel Engine**

Fluid

**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

Elemental level of silicon (Si) above normal.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. 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>GFL0111472</b>	GFL0068850	GFL0068899
Sample Date	Client Info	<b>20 May 2024</b>	05 Apr 2024	06 Mar 2024
Machine Age	hrs	<b>20337</b>	20100	19968
Oil Age	hrs	<b>369</b>	132	19968
Oil Changed	Client Info	<b>Changed</b>	Not Changd	Changed
Sample Status		<b>ABNORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<b>&lt;1.0</b>	<1.0	<1.0
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 >100	<b>9</b>	4	0
Chromium	ppm ASTM D5185m >20	<b>0</b>	0	<1
Nickel	ppm ASTM D5185m >4	<b>&lt;1</b>	<1	<1
Titanium	ppm ASTM D5185m	<b>0</b>	<1	0
Silver	ppm ASTM D5185m >3	<b>&lt;1</b>	0	0
Aluminum	ppm ASTM D5185m >20	<b>3</b>	2	1
Lead	ppm ASTM D5185m >40	<b>&lt;1</b>	<1	<1
Copper	ppm ASTM D5185m >330	<b>2</b>	<1	0
Tin	ppm ASTM D5185m >15	<b>0</b>	<1	0
Vanadium	ppm ASTM D5185m	<b>&lt;1</b>	<1	<1
Cadmium	ppm ASTM D5185m	<b>0</b>	<1	<1

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>3</b>	2	5
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>56</b>	56	54
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm ASTM D5185m 1010	<b>895</b>	1006	949
Calcium	ppm ASTM D5185m 1070	<b>1101</b>	1094	1010
Phosphorus	ppm ASTM D5185m 1150	<b>1033</b>	1027	989
Zinc	ppm ASTM D5185m 1270	<b>1255</b>	1321	1208
Sulfur	ppm ASTM D5185m 2060	<b>3569</b>	3742	3004

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>▲ 39</b>	3	3
Sodium	ppm ASTM D5185m	<b>44</b>	1	2
Potassium	ppm ASTM D5185m >20	<b>6</b>	1	2

## INFRA-RED

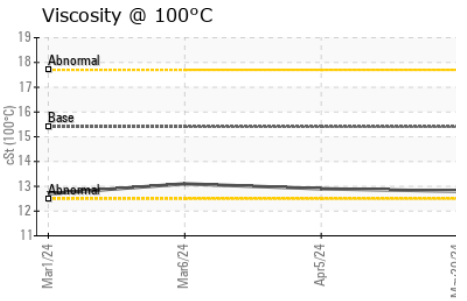
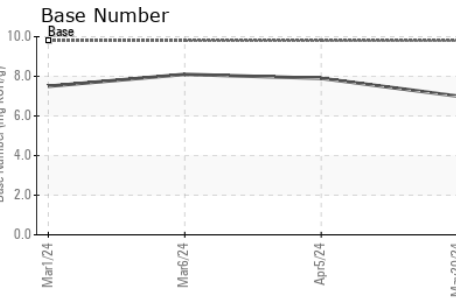
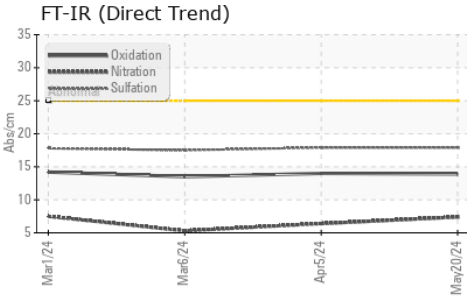
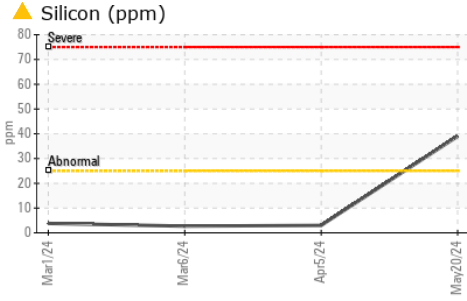
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>0.2</b>	0.1	0.1
Nitration	Abs/cm *ASTM D7624 >20	<b>7.4</b>	6.4	5.3
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>17.9</b>	17.9	17.5

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>13.9</b>	14.0	13.5
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>7.0</b>	7.9	8.1



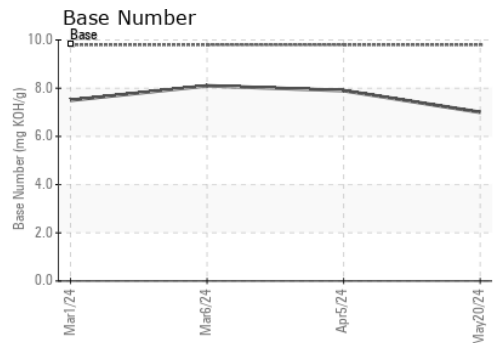
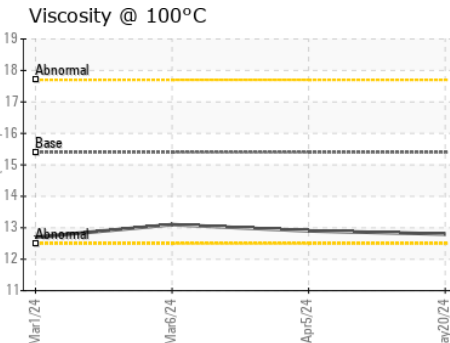
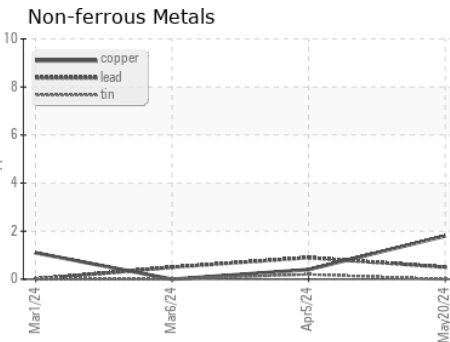
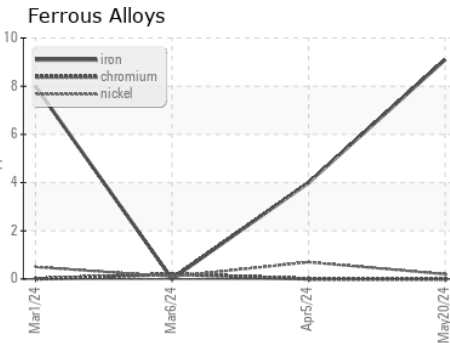
# OIL ANALYSIS REPORT



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	12.8	12.9

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0111472  
**Lab Number** : 06187508  
**Unique Number** : 11044260  
**Test Package** : FLEET

**Received** : 22 May 2024  
**Tested** : 23 May 2024  
**Diagnosed** : 24 May 2024 - Don Baldrige

GFL Environmental - 073 - Warner Robins - Transwaste  
 155 Story Road  
 Warner Robins, GA  
 US 31093  
 Contact: JOSH MALONEY  
 jmaloney@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)