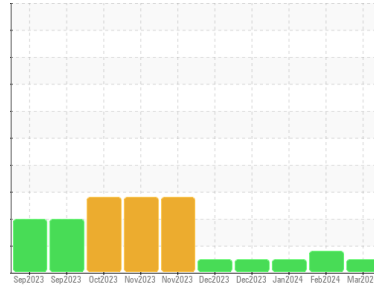




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**414062**  
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>GFL0110555</b>	GFL0110613	GFL0100214
Sample Date	Client Info	<b>14 Mar 2024</b>	09 Feb 2024	15 Jan 2024
Machine Age	hrs	<b>10133</b>	10133	991
Oil Age	hrs	<b>400</b>	600	991
Oil Changed	Client Info	<b>Not Chngd</b>	Not Chngd	Not Chngd
Sample Status		<b>NORMAL</b>	ABNORMAL	NORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<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 >120	<b>23</b>	16	13
Chromium	ppm ASTM D5185m >20	<b>0</b>	<1	<1
Nickel	ppm ASTM D5185m >5	<b>6</b>	2	2
Titanium	ppm ASTM D5185m >2	<b>0</b>	0	0
Silver	ppm ASTM D5185m >2	<b>0</b>	<1	<1
Aluminum	ppm ASTM D5185m >20	<b>9</b>	6	5
Lead	ppm ASTM D5185m >40	<b>&lt;1</b>	0	0
Copper	ppm ASTM D5185m >330	<b>187</b>	▲ 232	33
Tin	ppm ASTM D5185m >15	<b>0</b>	<1	<1
Vanadium	ppm ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>5</b>	7	10
Barium	ppm ASTM D5185m 0	<b>0</b>	8	3
Molybdenum	ppm ASTM D5185m 60	<b>63</b>	64	65
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	0	<1
Magnesium	ppm ASTM D5185m 1010	<b>999</b>	881	1006
Calcium	ppm ASTM D5185m 1070	<b>1142</b>	1015	1097
Phosphorus	ppm ASTM D5185m 1150	<b>991</b>	850	952
Zinc	ppm ASTM D5185m 1270	<b>1184</b>	1105	1234
Sulfur	ppm ASTM D5185m 2060	<b>2878</b>	2644	3107

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>9</b>	9	8
Sodium	ppm ASTM D5185m	<b>4</b>	0	0
Potassium	ppm ASTM D5185m >20	<b>24</b>	21	18

## INFRA-RED

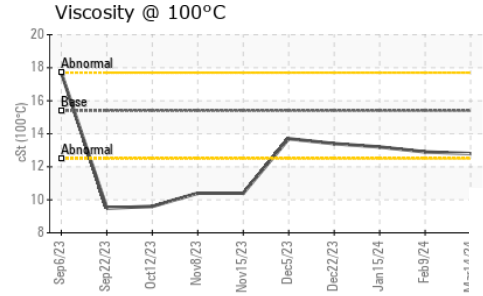
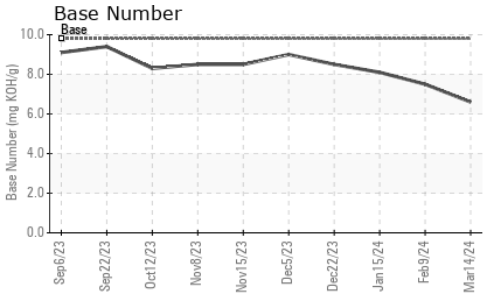
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	<b>0.4</b>	0.3	0.2
Nitration	Abs/cm *ASTM D7624 >20	<b>8.7</b>	7.6	6.6
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>20.1</b>	19.8	19.4

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>17.0</b>	15.9	15.1
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>6.6</b>	7.5	8.1



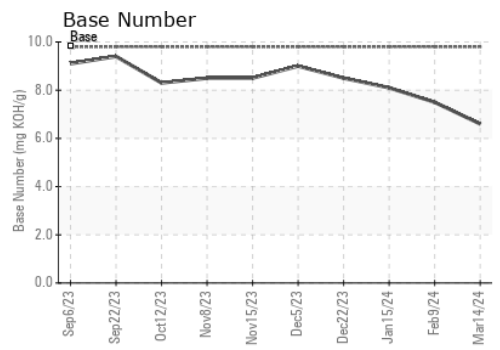
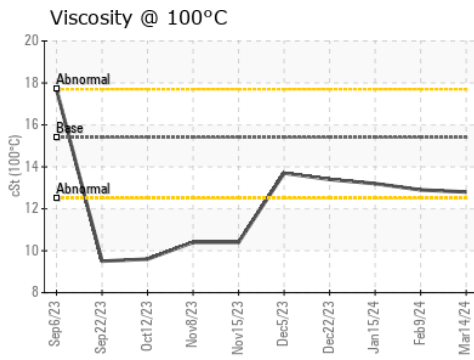
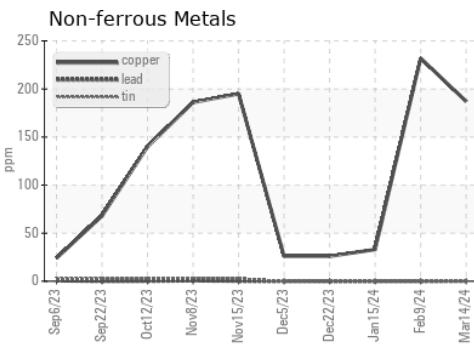
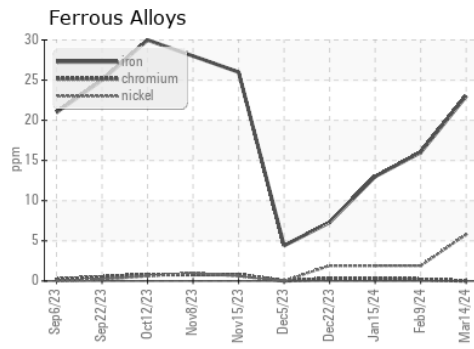
# OIL ANALYSIS REPORT



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	<b>12.8</b>	12.9	13.2

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0110555 **Received** : 19 Mar 2024  
**Lab Number** : **06122023** **Tested** : 19 Mar 2024  
**Unique Number** : 10936174 **Diagnosed** : 21 Mar 2024 - Don Baldrige  
**Test Package** : FLEET

**GFL Environmental - 166 - Phenix City**  
 18 Old Brickyard Rd  
 Phenix City, AL  
 US 36869  
 Contact: EDWARD CASHMAN  
 ecashman@gflenv.com

Certificate L2367  
 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)