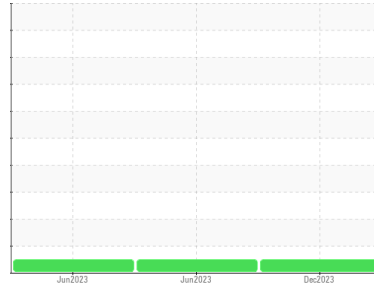




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**834001**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (--- QTS)**

## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. Note that there appears to be a discrepancy in the total time on this component, when compared to the historical data.

### Wear

All component wear rates are normal.

### Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. No other contaminants were detected in the oil.

### 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>GFL0092098</b>	GFL0084744	GFL0084572
Sample Date	Client Info		<b>26 Dec 2023</b>	19 Jun 2023	07 Jun 2023
Machine Age	hrs	Client Info	<b>1783</b>	2405	102
Oil Age	hrs	Client Info	<b>600</b>	0	0
Oil Changed	Client Info		<b>Not Changed</b>	Not Changed	Not Changed
Sample Status			<b>NORMAL</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

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	<b>11</b>	33	31
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >4	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m >3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>16</b>	6	5
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m >330	<b>2</b>	15	15
Tin	ppm	ASTM D5185m >15	<b>&lt;1</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>7</b>	27	35
Barium	ppm	ASTM D5185m 0	<b>0</b>	1	1
Molybdenum	ppm	ASTM D5185m 60	<b>51</b>	48	49
Manganese	ppm	ASTM D5185m 0	<b>1</b>	15	15
Magnesium	ppm	ASTM D5185m 1010	<b>523</b>	783	785
Calcium	ppm	ASTM D5185m 1070	<b>1615</b>	1170	1180
Phosphorus	ppm	ASTM D5185m 1150	<b>655</b>	746	784
Zinc	ppm	ASTM D5185m 1270	<b>942</b>	913	924
Sulfur	ppm	ASTM D5185m 2060	<b>2437</b>	2861	3024

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>5</b>	35	35
Sodium	ppm	ASTM D5185m	<b>7</b>	4	5
Potassium	ppm	ASTM D5185m >20	<b>66</b>	26	26
Glycol	%	*ASTM D2982	<b>NEG</b>	NEG	NEG

## INFRA-RED

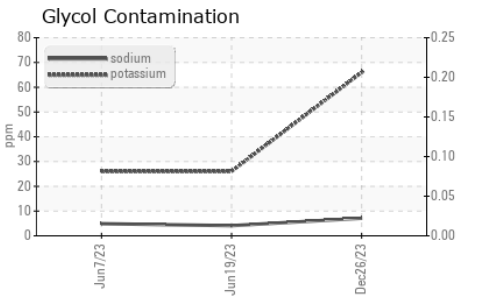
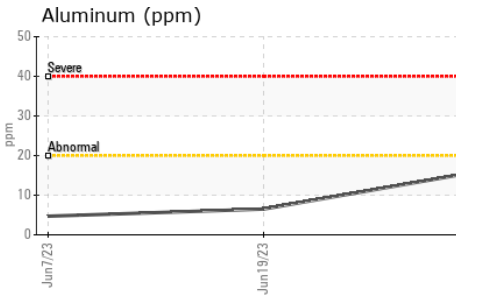
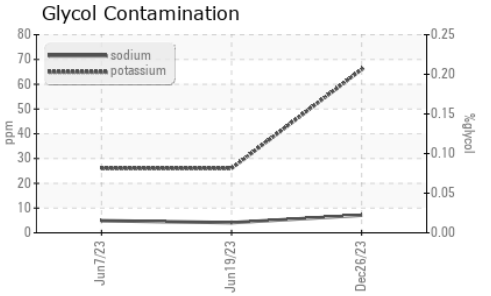
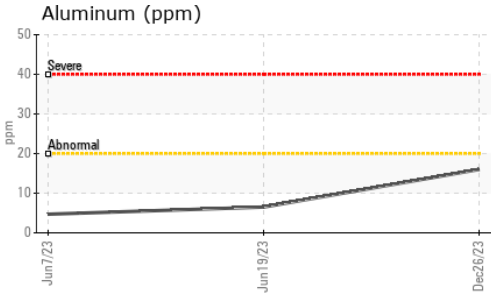
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624 >20	<b>11.0</b>	9.3	7.7
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>21.3</b>	20.6	20.9

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>18.2</b>	18.5	18.9
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>4.2</b>	7.9	8.1



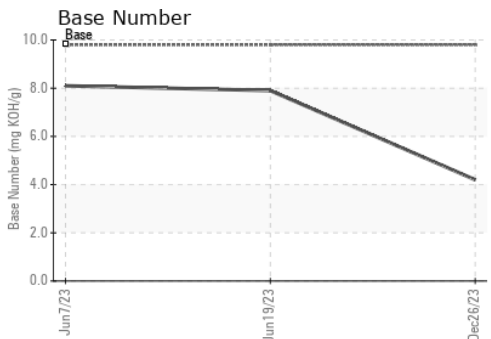
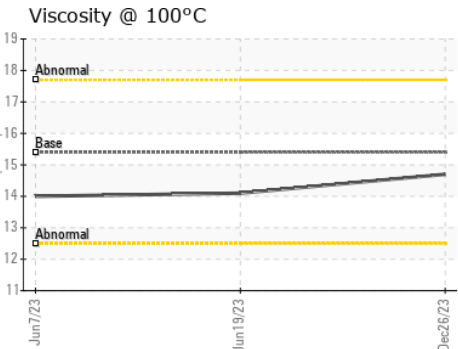
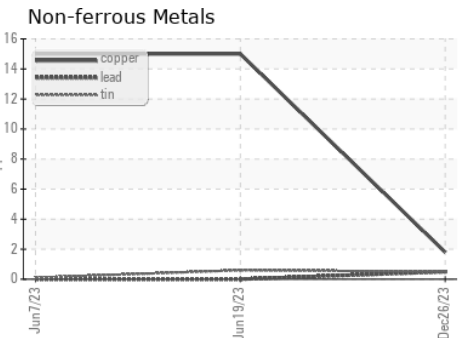
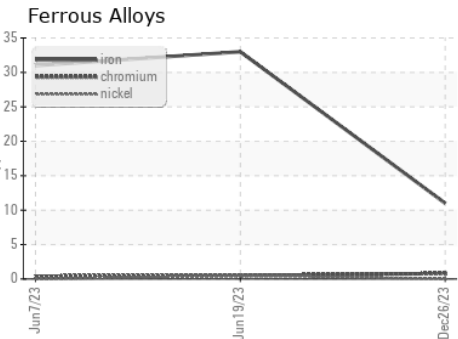
# OIL ANALYSIS REPORT



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	<b>14.7</b>	14.1	14.0

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0092098 **Received** : 29 Dec 2023  
**Lab Number** : **06048183** **Diagnosed** : 02 Jan 2024  
**Unique Number** : 10808791 **Diagnostician** : Don Baldrige  
**Test Package** : FLEET ( Additional Tests: Glycol )

**GFL Environmental - 856 - Houston South**  
 8515 Highway 6 South  
 Houston, TX  
 US 77083  
 Contact: Apolinar Zacarias  
 pzacariascano@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)

T:  
F: