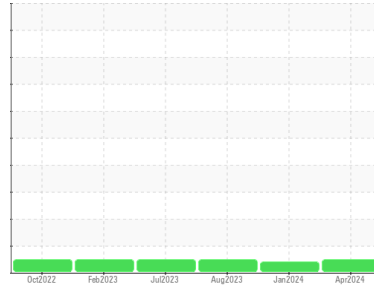




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**411047**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. 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

Additive levels indicate the addition of a different brand, or type of 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>GFL0102918</b>	GFL0102873	GFL0090868
Sample Date	Client Info		<b>03 Apr 2024</b>	08 Jan 2024	02 Aug 2023
Machine Age	hrs	Client Info	<b>0</b>	0	0
Oil Age	hrs	Client Info	<b>4864</b>	4329	3310
Oil Changed	Client Info		<b>N/A</b>	N/A	Changed
Sample Status			<b>NORMAL</b>	ABNORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<b>&lt;1.0</b>	0.8	<1.0
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >120	<b>6</b>	5	2
Chromium	ppm	ASTM D5185(m) >20	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m) >5	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185(m) >2	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m) >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m) >20	<b>1</b>	2	<1
Lead	ppm	ASTM D5185(m) >40	<b>0</b>	<1	0
Copper	ppm	ASTM D5185(m) >330	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185(m) >15	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m)	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 0	<b>130</b>	49	5
Barium	ppm	ASTM D5185(m) 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m) 60	<b>4</b>	43	55
Manganese	ppm	ASTM D5185(m) 0	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m) 1010	<b>51</b>	438	914
Calcium	ppm	ASTM D5185(m) 1070	<b>2072</b>	1696	1003
Phosphorus	ppm	ASTM D5185(m) 1150	<b>911</b>	762	1014
Zinc	ppm	ASTM D5185(m) 1270	<b>1080</b>	874	1126
Sulfur	ppm	ASTM D5185(m) 2060	<b>2726</b>	2342	2565
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >25	<b>1</b>	4	3
Sodium	ppm	ASTM D5185(m)	<b>3</b>	2	2
Potassium	ppm	ASTM D5185(m) >20	<b>8</b>	2	<1
Glycol	%	ASTM D7922*	<b>0.0</b>	NEG	NEG

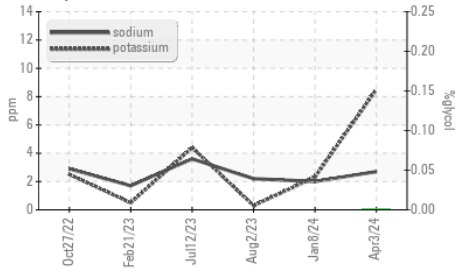
## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >4	<b>0.1</b>	0.1	0
Nitration	Abs/cm	ASTM D7624* >20	<b>8.5</b>	7.4	4.8
Sulfation	Abs./1mm	ASTM D7415* >30	<b>21.5</b>	22.2	18.3



# OIL ANALYSIS REPORT

## Glycol Contamination



## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs./1mm ASTM D7414*	>25	17.8	20.4	13.4

## VISUAL

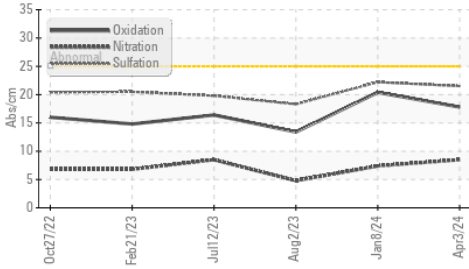
method	limit/base	current	history1	history2	
Emulsified Water	scalar Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar Visual*		NEG	NEG	NEG

## FLUID PROPERTIES

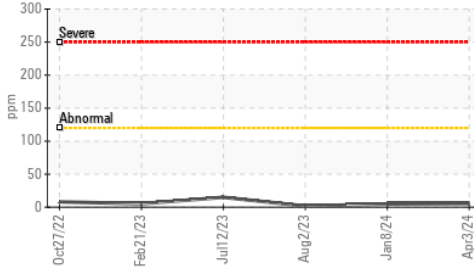
method	limit/base	current	history1	history2	
Visc @ 100°C	cSt ASTM D7279(m)	15.4	13.5	▲ 11.6	13.9

## GRAPHS

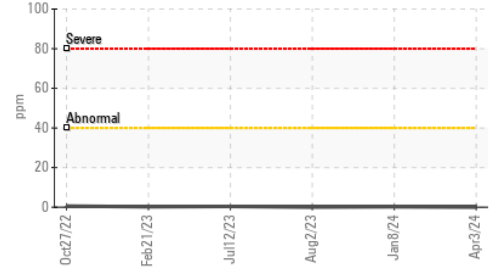
### FT-IR (Direct Trend)



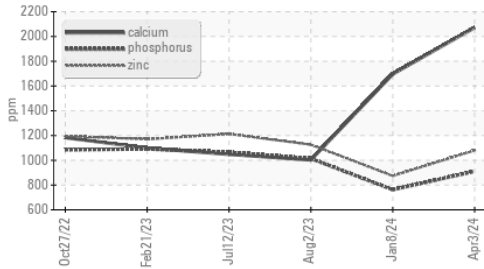
### Iron (ppm)



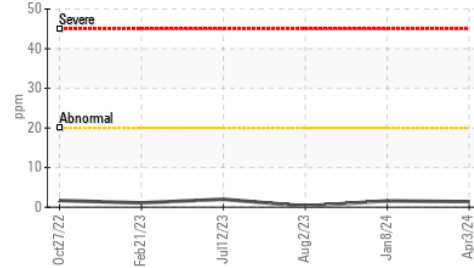
### Lead (ppm)



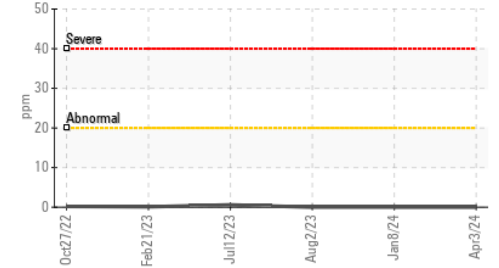
### Additives



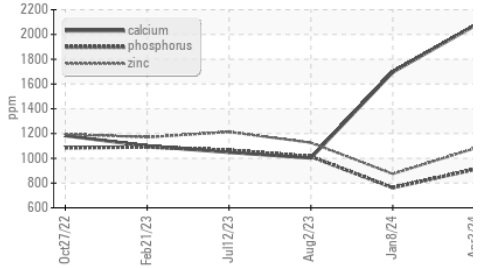
### Aluminum (ppm)



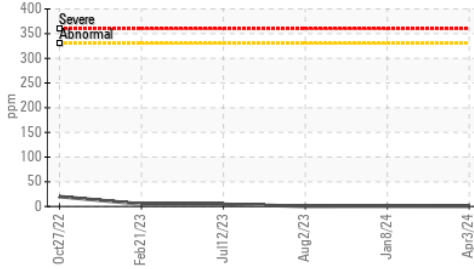
### Chromium (ppm)



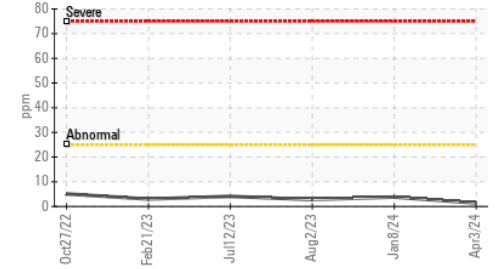
### Additives



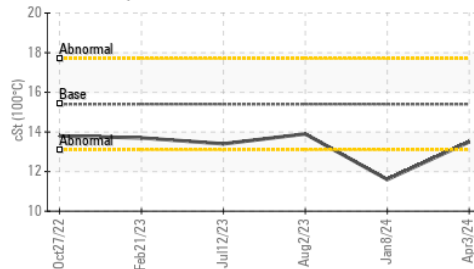
### Copper (ppm)



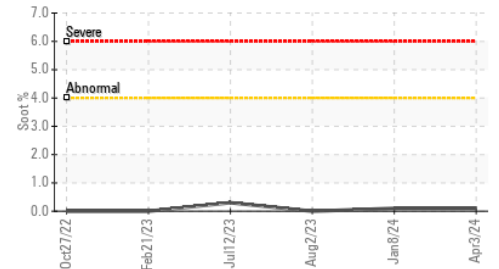
### Silicon (ppm)



### Viscosity @ 100°C



### Soot %



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0102918  
**Lab Number** : 02626525  
**Unique Number** : 5759657  
**Test Package** : MOB 1 ( Additional Tests: Glycol )

**GFL Environmental - 246 - Windsor**  
 2700 Deziel Dr  
 Windsor, ON  
 CA N8W 5H8  
 Contact: Dave Varga  
 dvarga@gflenv.com  
 T: (519)944-8009  
 F:

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.