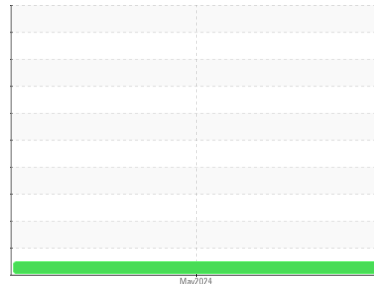




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**WESTERN STAR 420077**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON HP 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### 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. There is no indication of any contamination in the oil.

### Fluid Condition

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>GFL0122273</b>	---	---
Sample Date	Client Info		<b>15 May 2024</b>	---	---
Machine Age	hrs	Client Info	<b>9932</b>	---	---
Oil Age	hrs	Client Info	<b>663</b>	---	---
Oil Changed	Client Info		<b>Changed</b>	---	---
Sample Status			<b>NORMAL</b>	---	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	---	---
Water	WC Method	>0.2	<b>NEG</b>	---	---
Glycol	WC Method		<b>NEG</b>	---	---

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >100	<b>29</b>	---	---
Chromium	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	---	---
Nickel	ppm	ASTM D5185(m) >4	<b>&lt;1</b>	---	---
Titanium	ppm	ASTM D5185(m)	<b>0</b>	---	---
Silver	ppm	ASTM D5185(m) >3	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185(m) >20	<b>9</b>	---	---
Lead	ppm	ASTM D5185(m) >40	<b>0</b>	---	---
Copper	ppm	ASTM D5185(m) >330	<b>4</b>	---	---
Tin	ppm	ASTM D5185(m) >15	<b>0</b>	---	---
Antimony	ppm	ASTM D5185(m)	<b>0</b>	---	---
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	---	---
Beryllium	ppm	ASTM D5185(m)	<b>0</b>	---	---
Cadmium	ppm	ASTM D5185(m)	<b>0</b>	---	---

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 0	<b>3</b>	---	---
Barium	ppm	ASTM D5185(m) 0	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185(m) 60	<b>60</b>	---	---
Manganese	ppm	ASTM D5185(m) 0	<b>&lt;1</b>	---	---
Magnesium	ppm	ASTM D5185(m) 1010	<b>979</b>	---	---
Calcium	ppm	ASTM D5185(m) 1070	<b>1058</b>	---	---
Phosphorus	ppm	ASTM D5185(m) 1150	<b>961</b>	---	---
Zinc	ppm	ASTM D5185(m) 1270	<b>1163</b>	---	---
Sulfur	ppm	ASTM D5185(m) 2060	<b>2442</b>	---	---
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	---	---

## CONTAMINANTS

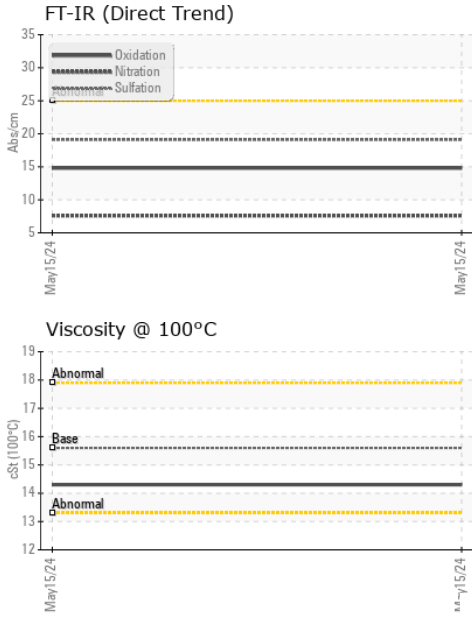
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >25	<b>4</b>	---	---
Sodium	ppm	ASTM D5185(m)	<b>2</b>	---	---
Potassium	ppm	ASTM D5185(m) >20	<b>10</b>	---	---

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >3	<b>0.2</b>	---	---
Nitration	Abs/cm	ASTM D7624* >20	<b>7.6</b>	---	---
Sulfation	Abs./1mm	ASTM D7415* >30	<b>19.1</b>	---	---



# OIL ANALYSIS REPORT

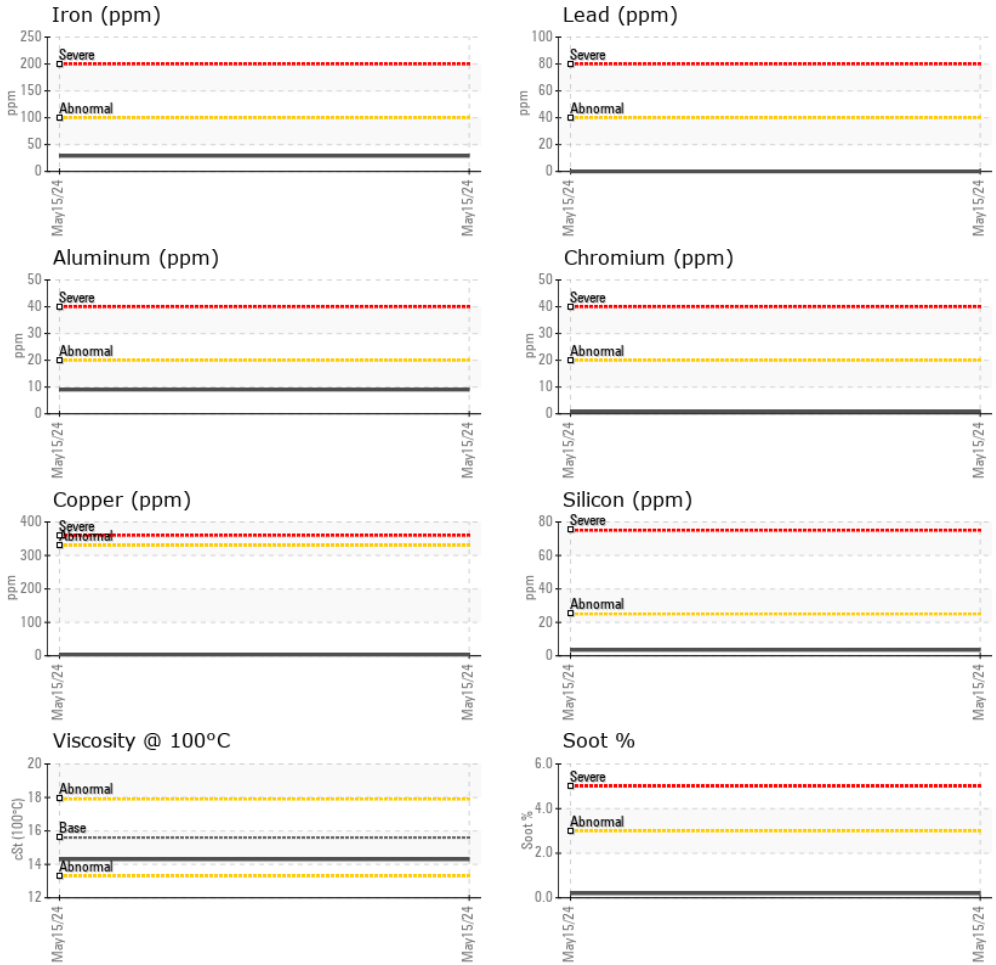


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>14.8</b>	---	---

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	---	---
Silt	scalar	Visual*	NONE	<b>VLITE</b>	---	---
Debris	scalar	Visual*	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Appearance	scalar	Visual*	NORML	<b>NORML</b>	---	---
Odor	scalar	Visual*	NORML	<b>NORML</b>	---	---
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	---	---
Free Water	scalar	Visual*		<b>NEG</b>	---	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	<b>14.3</b>	---	---

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 987 - Charlottetown**  
**Sample No.** : GFL0122273 **Received** : 24 May 2024  
**Lab Number** : 02637372 **Tested** : 24 May 2024  
**Unique Number** : 5786534 **Diagnosed** : 24 May 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: Visual )

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.

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