



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>ABNORMAL</b>



Machine Id  
**925006**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

**RECOMMENDATION**

No corrective action is recommended at this time. Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0113234</b>	GFL0113245	GFL0102872
Sample Date		Client Info		<b>14 Jun 2024</b>	16 Apr 2024	08 Jan 2024
Machine Age	hrs	Client Info		<b>0</b>	17016	0
Oil Age	hrs	Client Info		<b>22946</b>	16485	22027
Filter Age	hrs	Client Info		<b>0</b>	16485	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	NORMAL	ABNORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>120	<b>4</b>	6	7
Chromium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	2
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	2
Lead	ppm	ASTM D5185(m)	>40	<b>0</b>	0	<1
Copper	ppm	ASTM D5185(m)	>330	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0

**CONTAMINATION**

Light fuel dilution occurring. No other contaminants were detected in the oil.

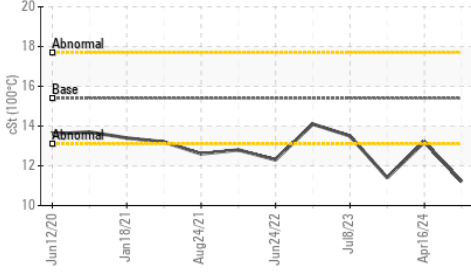
Silicon	ppm	ASTM D5185(m)	>25	<b>5</b>	3	6
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	5	1
Fuel	%	ASTM D7593*	>3.0	<b>1.5</b>	<1.0	2.3
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	ASTM D7844*	>4	<b>0.1</b>	0.8	0.3
Nitration	Abs/cm	ASTM D7624*	>20	<b>7.2</b>	8.6	7.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>22.1</b>	21.7	22.2
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

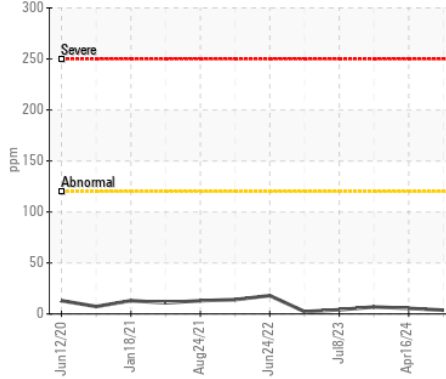
Viscosity of sample indicates oil is within SAE 30 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>2</b>	3	2
Boron	ppm	ASTM D5185(m)	0	<b>35</b>	96	36
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	60	<b>36</b>	3	35
Manganese	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185(m)	1010	<b>448</b>	51	431
Calcium	ppm	ASTM D5185(m)	1070	<b>1690</b>	2105	1663
Phosphorus	ppm	ASTM D5185(m)	1150	<b>733</b>	887	725
Zinc	ppm	ASTM D5185(m)	1270	<b>874</b>	1086	851
Sulfur	ppm	ASTM D5185(m)	2060	<b>2134</b>	2690	2140
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>19.9</b>	18.1	20.2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	<b>▲ 11.2</b>	13.2	▲ 11.4

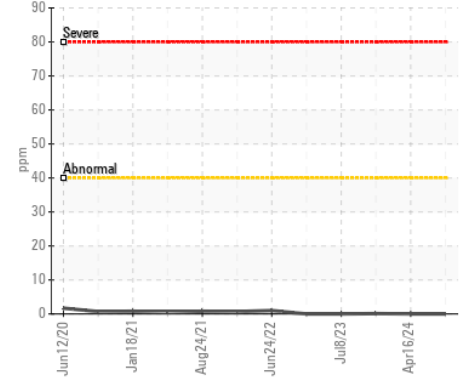
▲ Viscosity @ 100°C



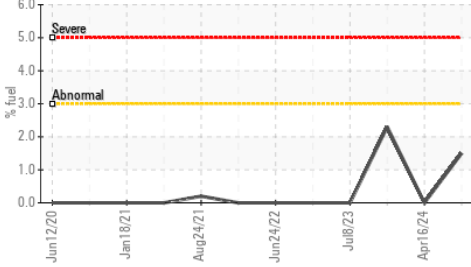
Iron (ppm)



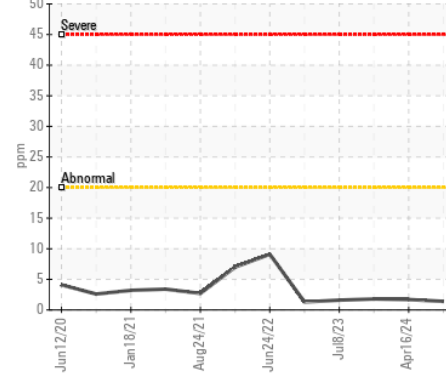
Lead (ppm)



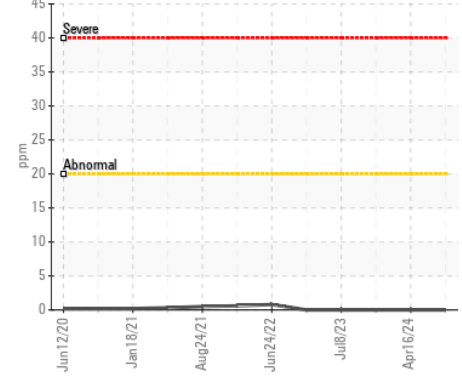
Fuel Dilution



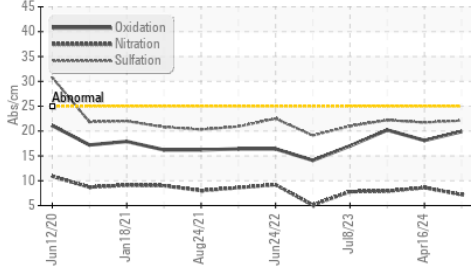
Aluminum (ppm)



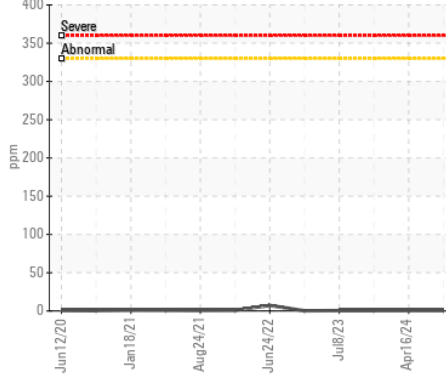
Chromium (ppm)



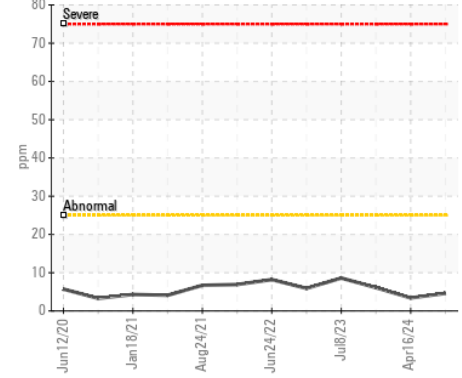
FT-IR (Direct Trend)



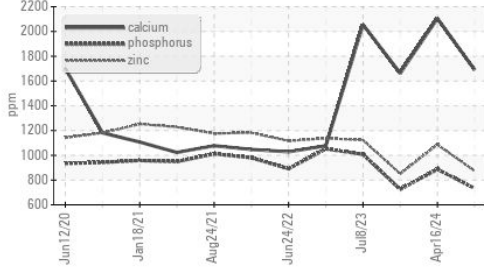
Copper (ppm)



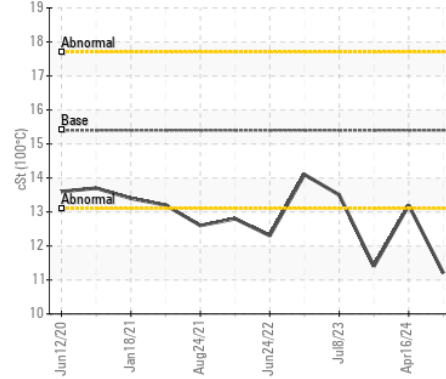
Silicon (ppm)



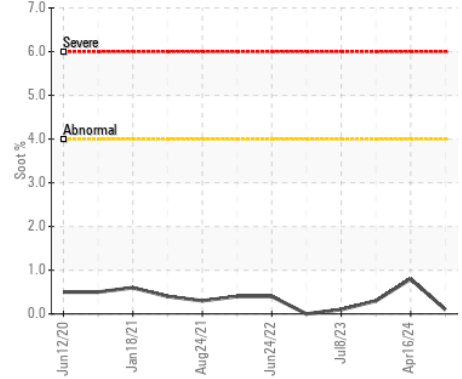
Additives



▲ Viscosity @ 100°C



Soot %



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0113234 **Received** : 18 Jun 2024  
**Lab Number** : 02642479 **Tested** : 19 Jun 2024  
**Unique Number** : 5800018 **Diagnosed** : 19 Jun 2024 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel )

**GFL Environmental - 246 - Windsor**  
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 CA N8W 5H8  
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 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.