



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

Machine Id  
**351069**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON HP 15W40 (--- GAL)**

**RECOMMENDATION**

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0125521</b>	GFL0100656	GFL0077038
Sample Date		Client Info		<b>29 Jun 2024</b>	26 Dec 2023	29 Jun 2023
Machine Age	mls	Client Info		<b>369412</b>	225634	2808
Oil Age	mls	Client Info		<b>0</b>	0	0
Filter Age	mls	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	<b>6</b>	17	23
Chromium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	1	1
Nickel	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	<1	<1
Aluminum	ppm	ASTM D5185(m)	>25	<b>1</b>	3	3
Lead	ppm	ASTM D5185(m)	>40	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>330	<b>&lt;1</b>	<1	1
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0

**CONTAMINATION**

Light fuel dilution occurring. There is a moderate concentration of dirt present in the oil. No other contaminants were detected in the oil.

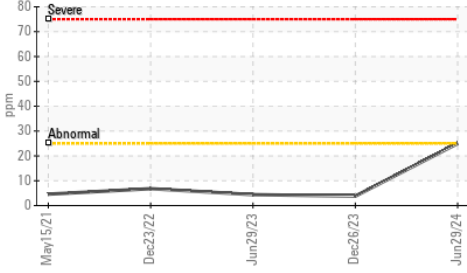
Silicon	ppm	ASTM D5185(m)	>25	<b>▲ 25</b>	4	4
Potassium	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	0
Fuel	%	ASTM D7593*	>5	<b>1.5</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	ASTM D7844*	>3	<b>0</b>	0.2	0.1
Nitration	Abs/cm	ASTM D7624*	>20	<b>7.4</b>	13.0	12.6
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>19.3</b>	24.6	24.5
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

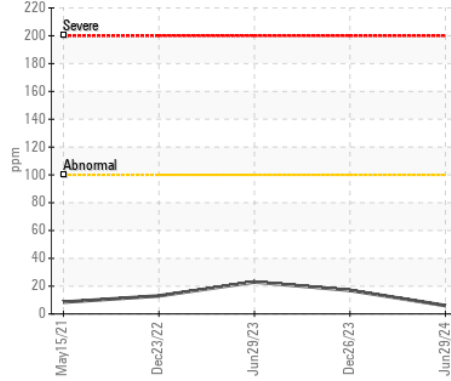
The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185(m)		<b>2</b>	2	2
Boron	ppm	ASTM D5185(m)	0	<b>2</b>	3	3
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	60	<b>58</b>	59	58
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	<b>960</b>	924	949
Calcium	ppm	ASTM D5185(m)	1070	<b>1014</b>	1013	1031
Phosphorus	ppm	ASTM D5185(m)	1150	<b>1030</b>	964	1032
Zinc	ppm	ASTM D5185(m)	1270	<b>1173</b>	1134	1178
Sulfur	ppm	ASTM D5185(m)	2060	<b>2632</b>	2583	2455
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>16.1</b>	28.1	27.9
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	<b>13.0</b>	12.2	12.2

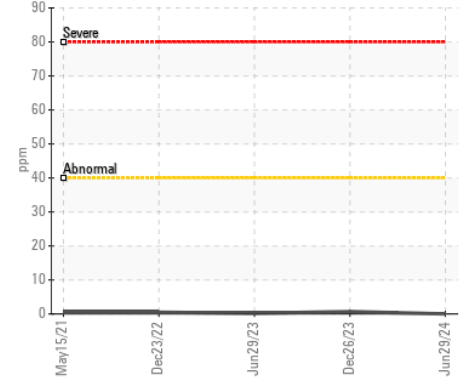
▲ Silicon (ppm)



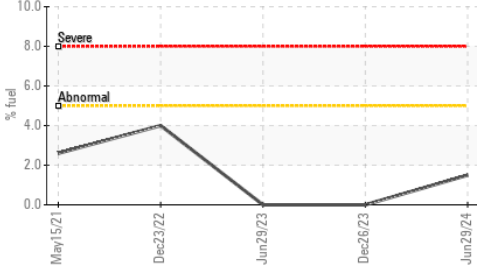
Iron (ppm)



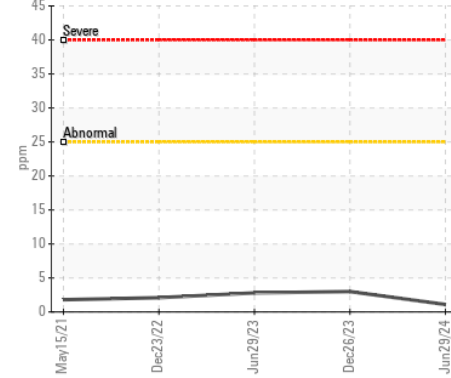
Lead (ppm)



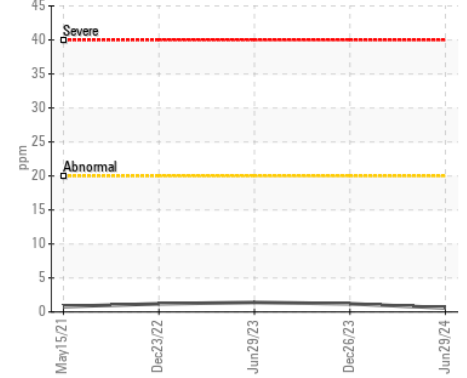
Fuel Dilution



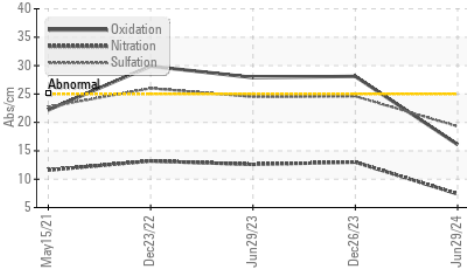
Aluminum (ppm)



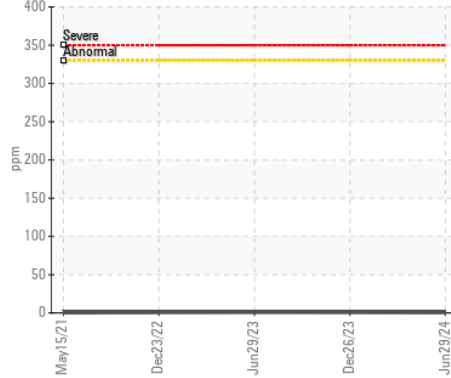
Chromium (ppm)



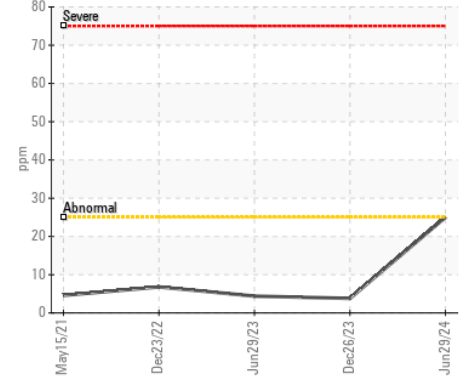
FT-IR (Direct Trend)



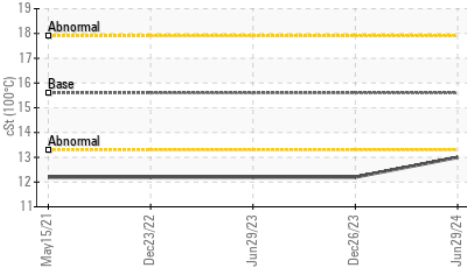
Copper (ppm)



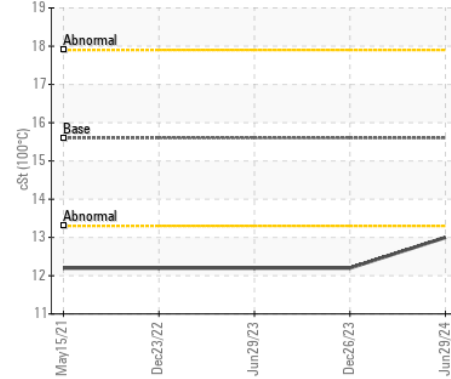
▲ Silicon (ppm)



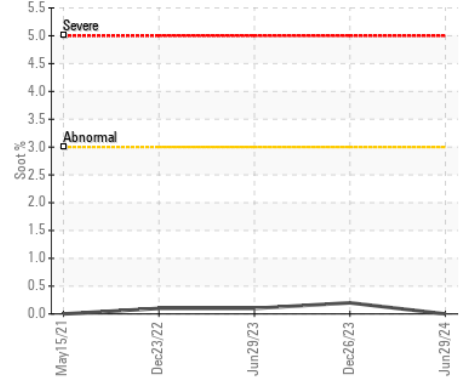
Viscosity @ 100°C



Viscosity @ 100°C



Soot %



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0125521  
**Lab Number** : 02645763  
**Unique Number** : 5803302  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel )

**GFL Environmental - 575 - Squamish Hauling**  
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 Squamish, BC  
 CA V8B 0K8  
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 F: (604)892-5238

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.