



Machine Id  
**501104**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 10W30 (--- GAL)**

**RECOMMENDATION**

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0108190</b>	GFL0084227	GFL0079650
Sample Date		Client Info		<b>27 Feb 2024</b>	14 Sep 2023	25 Apr 2023
Machine Age	kms	Client Info		<b>769901</b>	716355	655556
Oil Age	kms	Client Info		<b>53546</b>	60799	0
Filter Age	kms	Client Info		<b>53546</b>	60799	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	N/A
Sample Status				<b>SEVERE</b>	NORMAL	ABNORMAL

**WEAR**

Nickel ppm levels are severe. Exhaust valve wear is indicated.

Iron	ppm	ASTM D5185(m)	>100	<b>62</b>	50	49
Chromium	ppm	ASTM D5185(m)	>20	<b>1</b>	<1	1
Nickel	ppm	ASTM D5185(m)	>2	<b>▲ 10</b>	1	2
Titanium	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	<1	<1
Aluminum	ppm	ASTM D5185(m)	>25	<b>4</b>	3	4
Lead	ppm	ASTM D5185(m)	>40	<b>2</b>	4	2
Copper	ppm	ASTM D5185(m)	>330	<b>8</b>	7	14
Tin	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	<1	1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0

**CONTAMINATION**

There is no indication of any contamination in the oil.

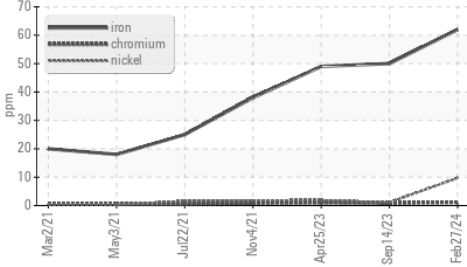
Silicon	ppm	ASTM D5185(m)	>25	<b>9</b>	7	10
Potassium	ppm	ASTM D5185(m)	>20	<b>6</b>	18	<b>▲ 116</b>
Fuel		WC Method	>6.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	%	ASTM D7922*		<b>0.0</b>	0.0	0.0
Soot %	%	ASTM D7844*	>3	<b>0.6</b>	0.6	0.6
Nitration	Abs/cm	ASTM D7624*	>20	<b>10.7</b>	10.1	11.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>23.2</b>	23.5	23.1
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

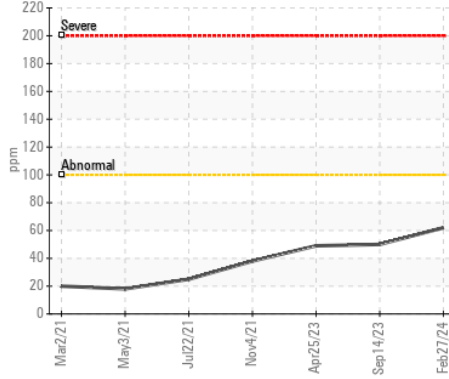
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185(m)		<b>33</b>	98	<b>● 699</b>
Boron	ppm	ASTM D5185(m)	2	<b>2</b>	4	2
Barium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	50	<b>62</b>	66	73
Manganese	ppm	ASTM D5185(m)	0	<b>1</b>	<1	2
Magnesium	ppm	ASTM D5185(m)	950	<b>939</b>	927	934
Calcium	ppm	ASTM D5185(m)	1050	<b>1123</b>	1108	1160
Phosphorus	ppm	ASTM D5185(m)	995	<b>931</b>	946	916
Zinc	ppm	ASTM D5185(m)	1180	<b>1168</b>	1161	1208
Sulfur	ppm	ASTM D5185(m)	2600	<b>2298</b>	2198	2410
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>19.2</b>	18.6	18.0
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	<b>11.0</b>	11.0	11.5

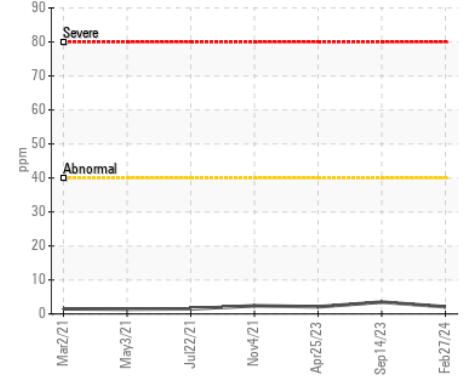
▲ Ferrous Alloys



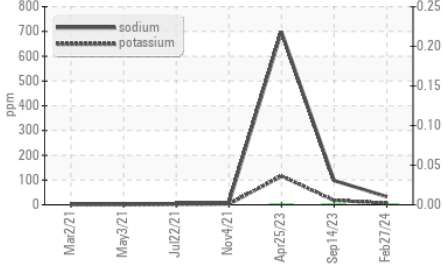
Iron (ppm)



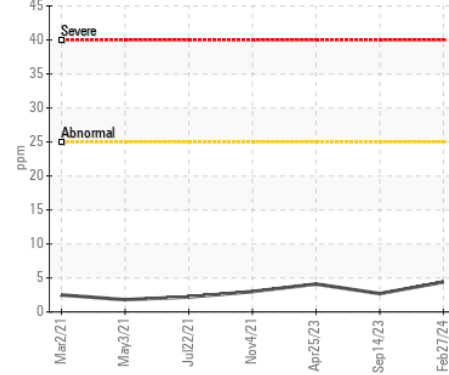
Lead (ppm)



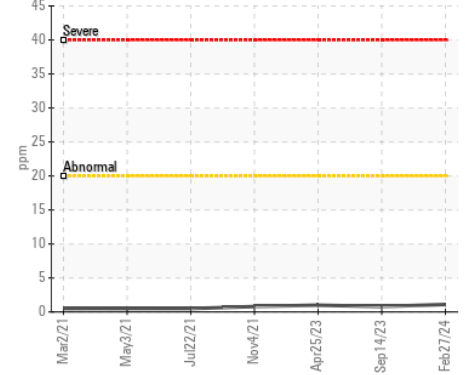
Glycol Contamination



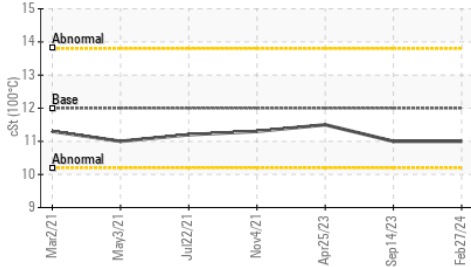
Aluminum (ppm)



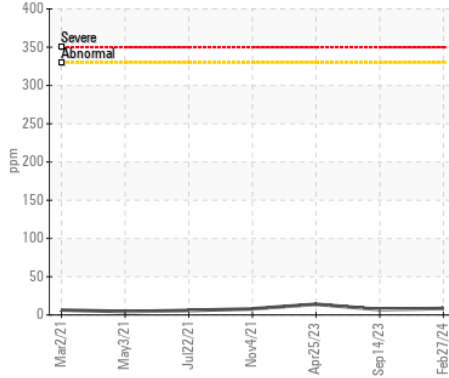
Chromium (ppm)



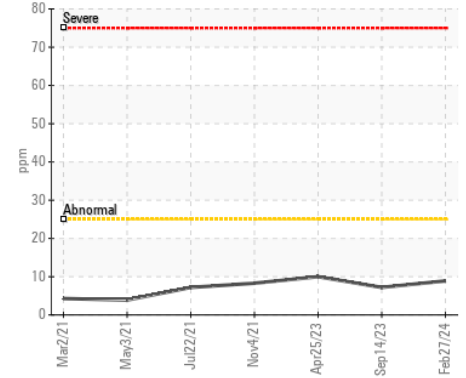
Viscosity @ 100°C



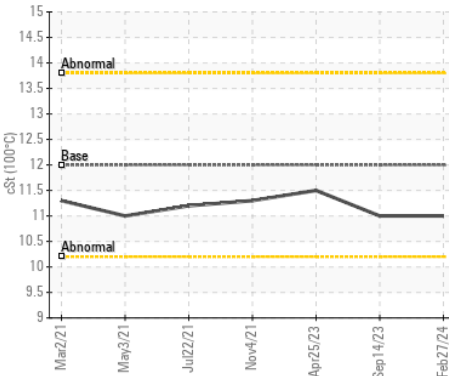
Copper (ppm)



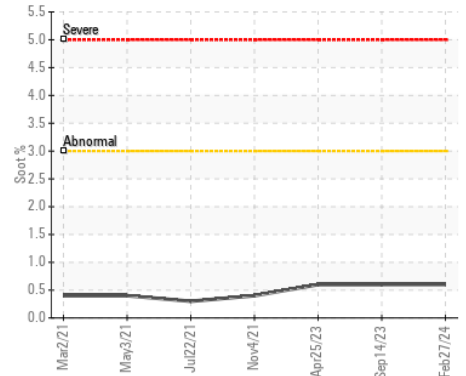
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0108190  
**Lab Number** : 02618870  
**Unique Number** : 5735980  
**Test Package** : MOB 1 ( Additional Tests: Glycol )

**Received** : 29 Feb 2024  
**Tested** : 29 Feb 2024  
**Diagnosed** : 01 Mar 2024 - Kevin Marson

**GFL Environmental - 245 - BJ Bear**  
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 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.