



Machine Id  
**729091**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

**RECOMMENDATION**

We advise that you check for possible coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0108336</b>	GFL0098202	GFL0083880
Sample Date		Client Info		<b>11 Jan 2024</b>	12 Dec 2023	02 Nov 2023
Machine Age	hrs	Client Info		<b>14861</b>	14669	14389
Oil Age	hrs	Client Info		<b>14861</b>	14669	14389
Filter Age	hrs	Client Info		<b>0</b>	0	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>	ABNORMAL	SEVERE

**WEAR**

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>100	<b>▲ 149</b>	26	24
Chromium	ppm	ASTM D5185m	>20	<b>4</b>	1	<1
Nickel	ppm	ASTM D5185m	>4	<b>3</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>12</b>	2	5
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>330	<b>5</b>	2	1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

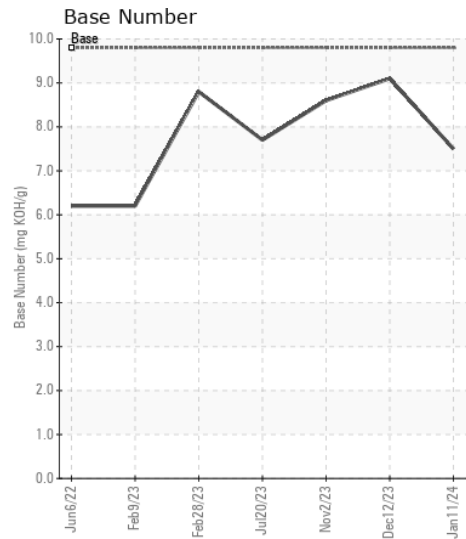
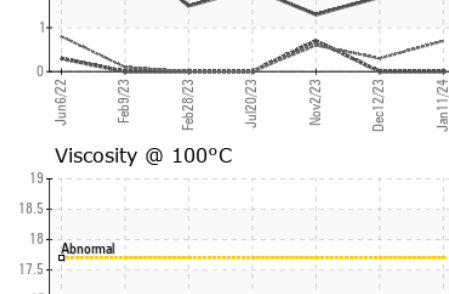
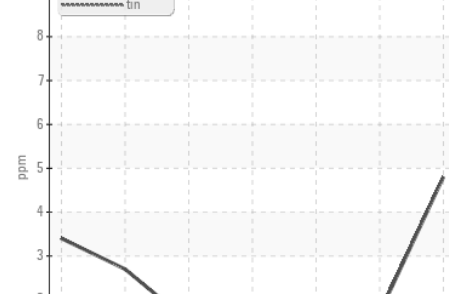
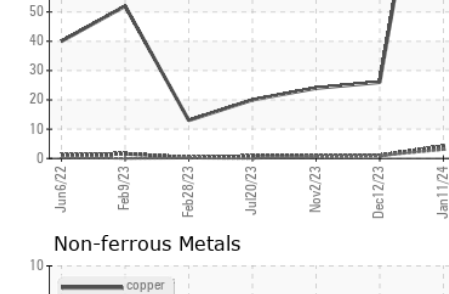
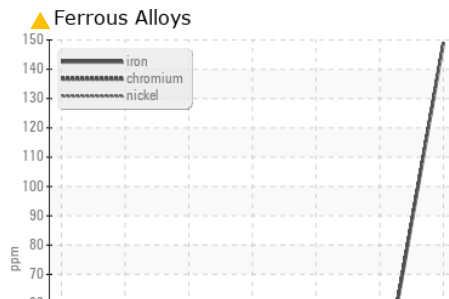
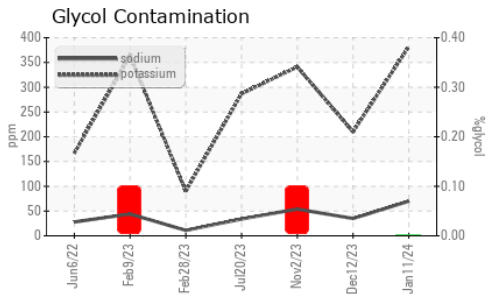
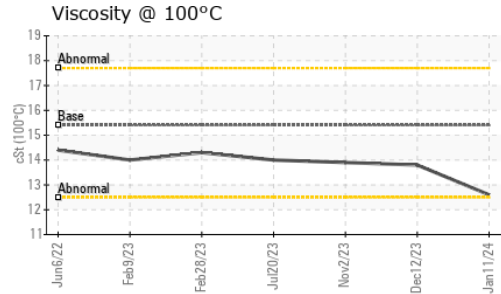
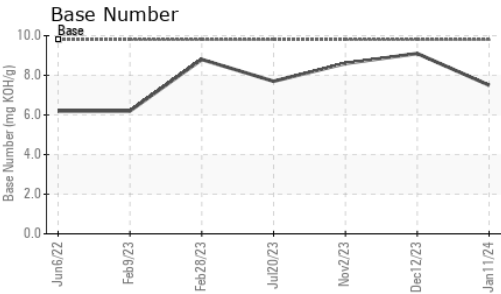
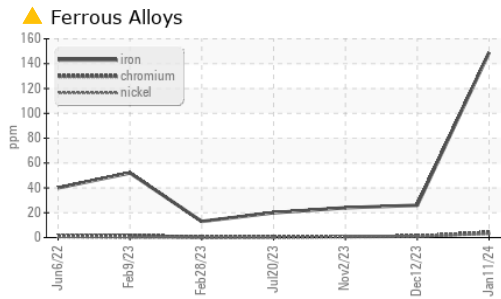
Sodium and/or potassium levels remain high. Test for glycol is negative.

Silicon	ppm	ASTM D5185m	>25	<b>13</b>	6	8
Potassium	ppm	ASTM D5185m	>20	<b>▲ 382</b>	▲ 210	▲ 341
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	%	*ASTM D2982		<b>0.0</b>	NEG	0.10
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	0.1	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.7</b>	6.4	9.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.1</b>	17.8	19.2
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		<b>▲ 70</b>	▲ 35	▲ 54
Boron	ppm	ASTM D5185m	0	<b>3</b>	6	9
Barium	ppm	ASTM D5185m	0	<b>&lt;1</b>	12	0
Molybdenum	ppm	ASTM D5185m	60	<b>117</b>	90	113
Manganese	ppm	ASTM D5185m	0	<b>2</b>	<1	<1
Magnesium	ppm	ASTM D5185m	1010	<b>882</b>	887	944
Calcium	ppm	ASTM D5185m	1070	<b>1079</b>	1118	1067
Phosphorus	ppm	ASTM D5185m	1150	<b>1085</b>	980	1015
Zinc	ppm	ASTM D5185m	1270	<b>1246</b>	1212	1345
Sulfur	ppm	ASTM D5185m	2060	<b>3017</b>	3269	3249
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.8</b>	13.5	14.5
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>7.5</b>	9.1	8.6
Visc @ 100°C	cSt	ASTM D445	15.4	<b>12.6</b>	13.8	13.9



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0108336 **Received** : 12 Jan 2024  
**Lab Number** : 06060087 **Diagnosed** : 16 Jan 2024  
**Unique Number** : 10831469 **Diagnostician** : Doug Bogart  
**Test Package** : FLEET ( Additional Tests: Glycol )

**GFL Environmental - 652 - Fredericksburg Hauling**  
 10954 Houser Drive  
 Fredericksburg, VA  
 US 22408  
 Contact: WILLIAM MILO  
 wmilo@gflenv.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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F: