



Machine Id  
**711040**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

**RECOMMENDATION**

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0117627</b>	GFL0108822	GFL0105814
Sample Date		Client Info		<b>07 May 2024</b>	30 Jan 2024	23 Dec 2023
Machine Age	mls	Client Info		<b>62149</b>	2957	2957
Oil Age	mls	Client Info		<b>2957</b>	2957	0
Filter Age	mls	Client Info		<b>0</b>	2957	0
Oil Changed		Client Info		<b>Not Changd</b>	Changed	Changed
Filter Changed		Client Info		<b>Not Changd</b>	Changed	Changed
Sample Status				<b>SEVERE</b>	NORMAL	NORMAL

**WEAR**

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>100	<b>50</b>	44	31
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	1	1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>2</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>2</b>	7	7
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	<1	2
Copper	ppm	ASTM D5185m	>330	<b>0</b>	1	1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

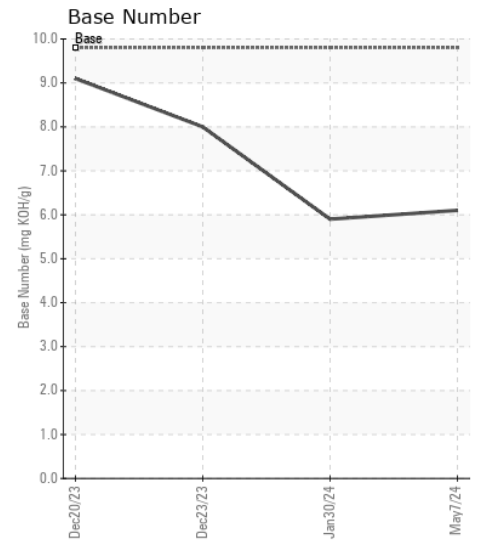
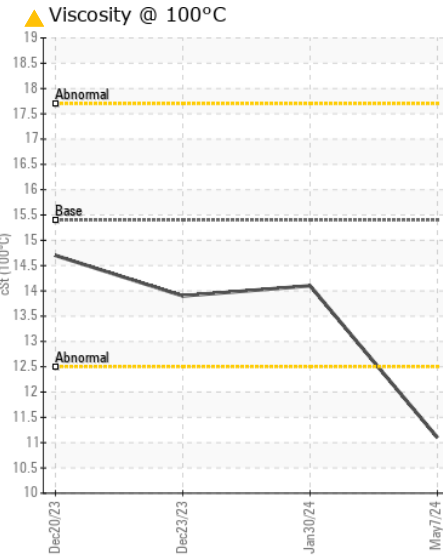
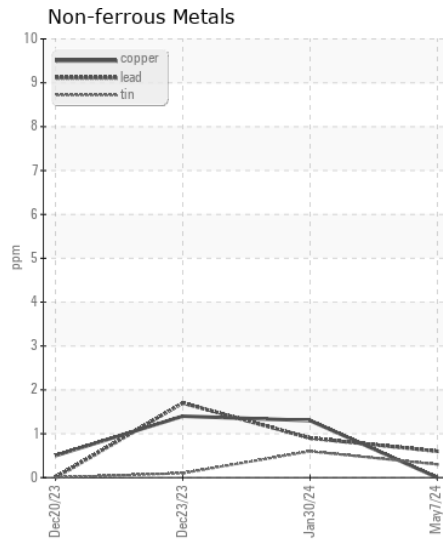
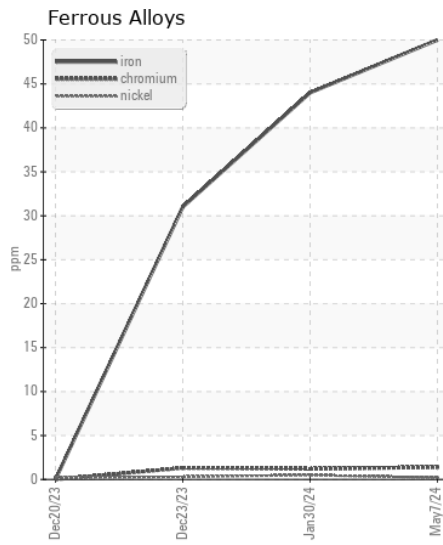
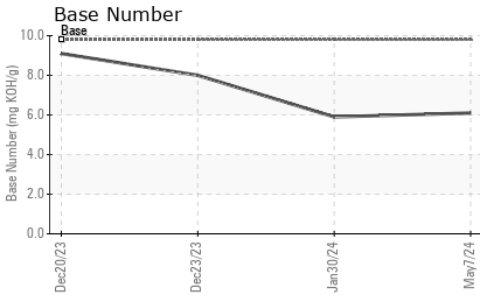
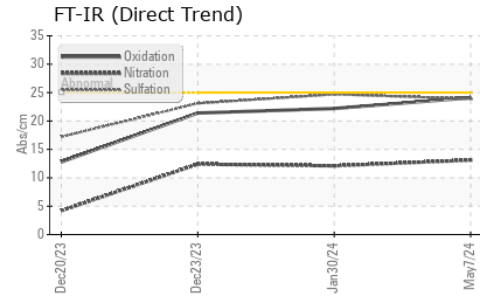
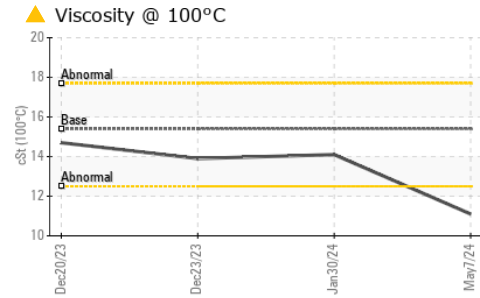
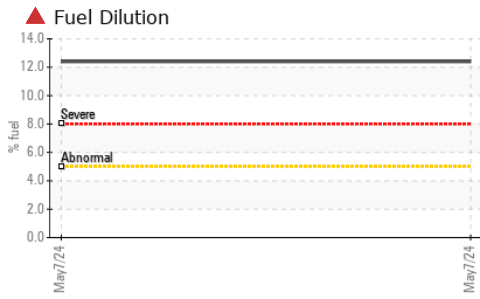
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>8</b>	6	5
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	3	17
Fuel	%	ASTM D3524	>5	<b>▲ 12.4</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>1</b>	1.1	1.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>13.1</b>	12.1	12.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.9</b>	24.7	23.1
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. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		<b>2</b>	24	54
Boron	ppm	ASTM D5185m	0	<b>&lt;1</b>	8	<1
Barium	ppm	ASTM D5185m	0	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185m	60	<b>51</b>	66	60
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	1010	<b>846</b>	1021	921
Calcium	ppm	ASTM D5185m	1070	<b>949</b>	1136	1063
Phosphorus	ppm	ASTM D5185m	1150	<b>944</b>	1109	981
Zinc	ppm	ASTM D5185m	1270	<b>1124</b>	1366	1210
Sulfur	ppm	ASTM D5185m	2060	<b>2939</b>	2759	3111
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>24.1</b>	22.2	21.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>6.1</b>	5.9	8.0
Visc @ 100°C	cSt	ASTM D445	15.4	<b>▲ 11.1</b>	14.1	13.9



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0117627 **Received** : 10 May 2024  
**Lab Number** : 06175199 **Tested** : 15 May 2024  
**Unique Number** : 11021252 **Diagnosed** : 15 May 2024 - Wes Davis  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

**GFL Environmental - 415 - Michigan East**  
 6200 Elmridge  
 Sterling Heights, MI  
 US 48313  
 Contact: Frank Wolak  
 fwolak@gflenv.com  
 T: (586)825-9514  
 F:

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)