



Machine Id  
**10682**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (40 GAL)**

**RECOMMENDATION**

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0127788</b>	GFL0098991	GFL0098933
Sample Date		Client Info		<b>08 Jul 2024</b>	10 Jun 2024	13 May 2024
Machine Age	hrs	Client Info		<b>34110</b>	34110	33959
Oil Age	hrs	Client Info		<b>18544</b>	34110	33959
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>None</b>	None	None
Sample Status				<b>SEVERE</b>	SEVERE	SEVERE

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>33</b>	26	15
Chromium	ppm	ASTM D5185m	>5	<b>1</b>	1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>15	<b>4</b>	3	4
Lead	ppm	ASTM D5185m	>25	<b>&lt;1</b>	1	<1
Copper	ppm	ASTM D5185m	>100	<b>2</b>	2	<1
Tin	ppm	ASTM D5185m	>4	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

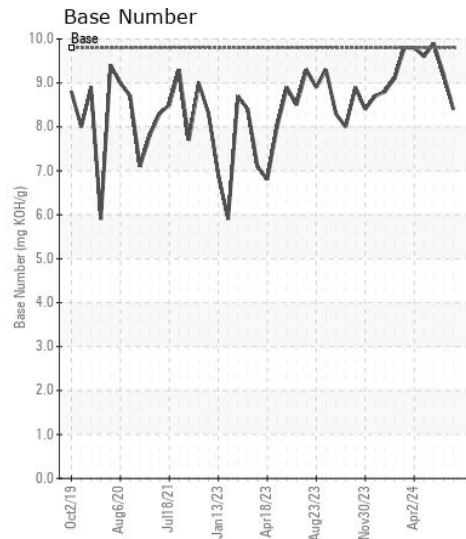
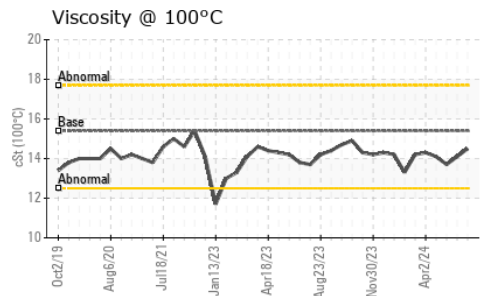
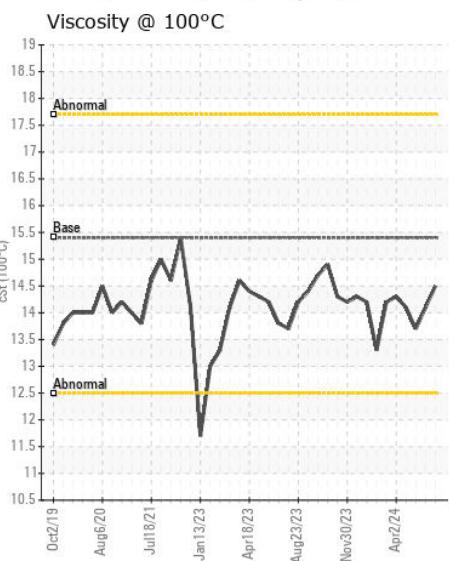
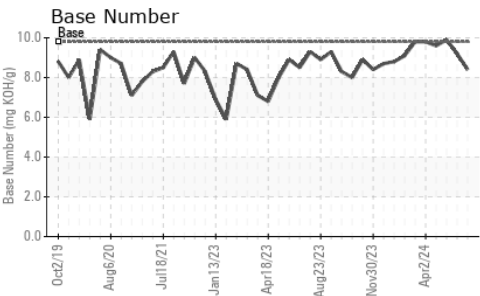
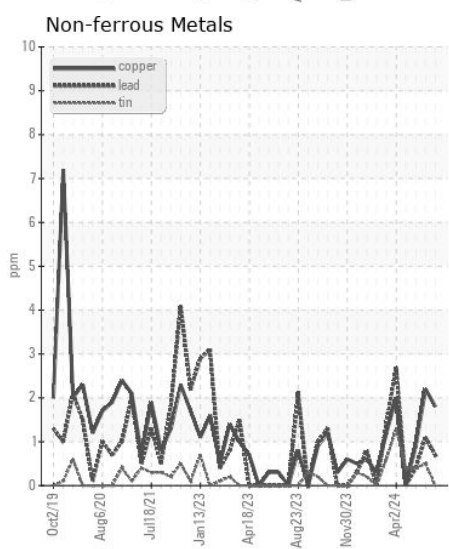
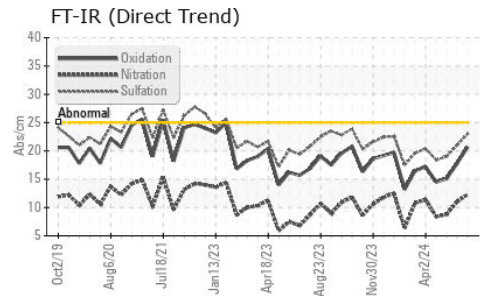
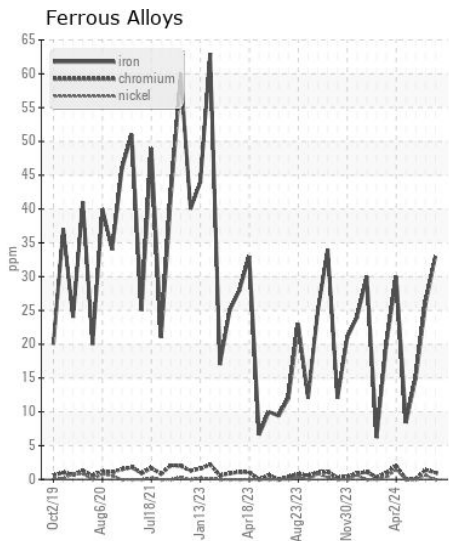
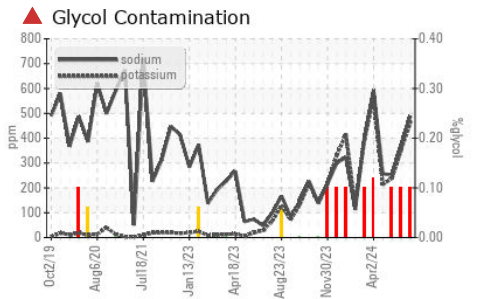
Sodium and/or potassium levels are high. Test for glycol is positive.

Silicon	ppm	ASTM D5185m	>25	<b>7</b>	8	8
Potassium	ppm	ASTM D5185m	>20	<b>▲ 462</b>	▲ 353	▲ 239
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	%	*ASTM D2982		<b>▲ 0.10</b>	▲ 0.10	▲ 0.10
Soot %	%	*ASTM D7844	>6	<b>0.4</b>	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>12.3</b>	11.0	8.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.0</b>	21.0	19.0
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. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		<b>▲ 489</b>	▲ 370	▲ 251
Boron	ppm	ASTM D5185m	0	<b>0</b>	<1	2
Barium	ppm	ASTM D5185m	0	<b>0</b>	1	0
Molybdenum	ppm	ASTM D5185m	60	<b>96</b>	87	69
Manganese	ppm	ASTM D5185m	0	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	1010	<b>895</b>	936	866
Calcium	ppm	ASTM D5185m	1070	<b>1108</b>	1058	951
Phosphorus	ppm	ASTM D5185m	1150	<b>984</b>	1023	942
Zinc	ppm	ASTM D5185m	1270	<b>1229</b>	1248	1134
Sulfur	ppm	ASTM D5185m	2060	<b>2611</b>	3009	3186
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.7</b>	17.8	15.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>8.4</b>	9.2	9.9
Visc @ 100°C	cSt	ASTM D445	15.4	<b>14.5</b>	14.1	13.7



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0127788  
**Lab Number** : 06234575  
**Unique Number** : 11123409  
**Test Package** : FLEET

**Received** : 12 Jul 2024  
**Tested** : 16 Jul 2024  
**Diagnosed** : 16 Jul 2024 - Sean Felton

**GFL Environmental - 084 - Clarksville**  
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Certificate L2367  
 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)