



Machine Id  
**428068-402225.1**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- 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 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>GFL0093470</b>	GFL0093437	GFL0109426
Sample Date		Client Info		<b>20 Jun 2024</b>	29 May 2024	29 Apr 2024
Machine Age	hrs	Client Info		<b>18833</b>	18710	18564
Oil Age	hrs	Client Info		<b>384</b>	261	115
Filter Age	hrs	Client Info		<b>384</b>	261	115
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Sample Status				<b>SEVERE</b>	ABNORMAL	ABNORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>34</b>	24	24
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	1	1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>1</b>	2	2
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	3	4
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>330	<b>2</b>	<1	2
Tin	ppm	ASTM D5185m	>15	<b>0</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**

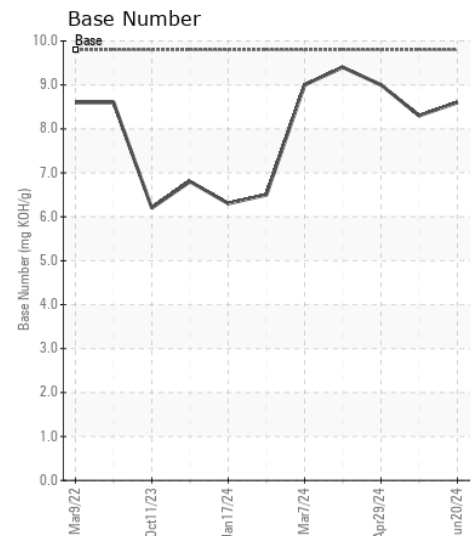
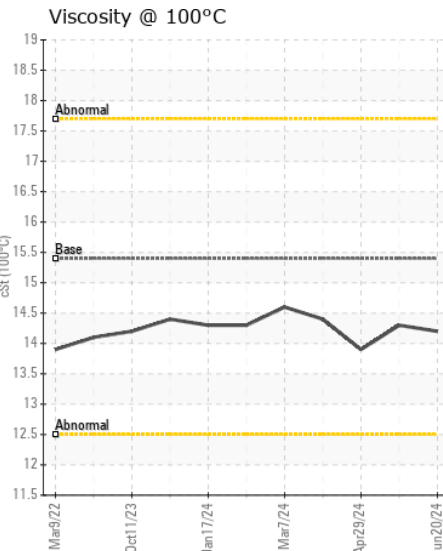
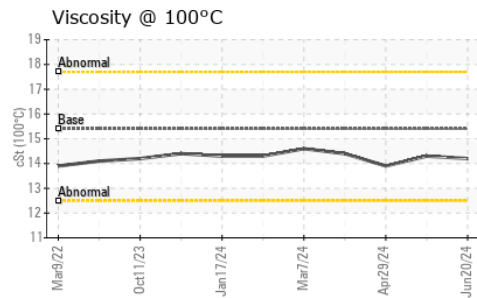
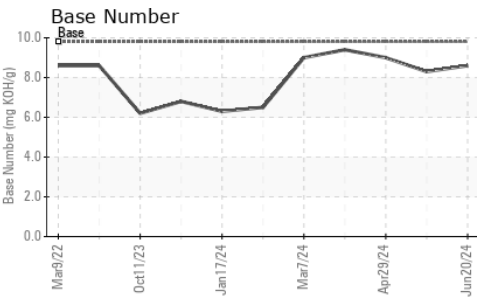
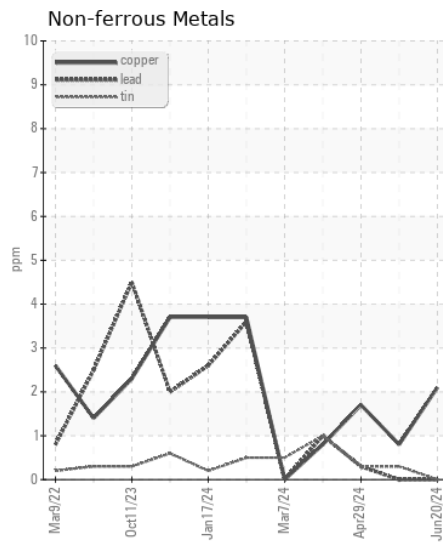
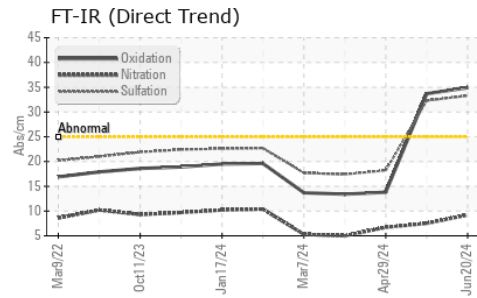
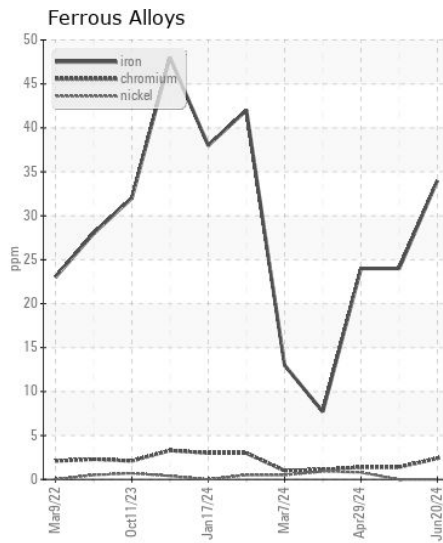
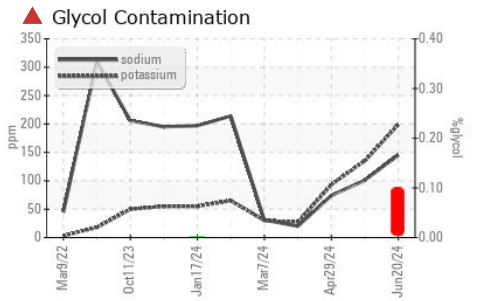
Sodium and/or potassium levels are high. Test for glycol is positive.

Silicon	ppm	ASTM D5185m	>25	<b>8</b>	6	8
Potassium	ppm	ASTM D5185m	>20	<b>▲ 199</b>	▲ 135	▲ 93
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>▲ 0.10</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.5</b>	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.2</b>	7.5	6.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>33.3</b>	32.3	18.2
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	▲ MODER
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>▲ 145</b>	▲ 101	▲ 74
Boron	ppm	ASTM D5185m	0	<b>11</b>	25	4
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>82</b>	64	69
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	1010	<b>874</b>	805	876
Calcium	ppm	ASTM D5185m	1070	<b>1011</b>	899	1027
Phosphorus	ppm	ASTM D5185m	1150	<b>1145</b>	1089	1029
Zinc	ppm	ASTM D5185m	1270	<b>1192</b>	1065	1181
Sulfur	ppm	ASTM D5185m	2060	<b>4393</b>	4348	3141
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>34.9</b>	33.7	13.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>8.6</b>	8.3	9.0
Visc @ 100°C	cSt	ASTM D445	15.4	<b>14.2</b>	14.3	13.9



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0093470 **Received** : 24 Jun 2024  
**Lab Number** : 06217978 **Tested** : 25 Jun 2024  
**Unique Number** : 11096175 **Diagnosed** : 25 Jun 2024 - Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: Glycol )

**GFL Environmental - 891 - Oklahoma City Hauling**  
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 Oklahoma City, OK  
 US 73128  
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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)