



Machine Id  
**411015**  
 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. Resample at the next service interval to monitor. ( Customer Sample Comment: Sample only )

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0116298</b>	GFL0101654	GFL0088298
Sample Date		Client Info		<b>21 May 2024</b>	13 Mar 2024	23 Oct 2023
Machine Age	hrs	Client Info		<b>5016</b>	4793	4430
Oil Age	hrs	Client Info		<b>171</b>	364	182
Filter Age	hrs	Client Info		<b>171</b>	364	182
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Changed
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Changed
Sample Status				<b>SEVERE</b>	ABNORMAL	NORMAL

**WEAR**

The aluminum level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>44</b>	33	12
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	2	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>▲ 28</b>	▲ 27	6
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>5</b>	6	<1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	0
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**

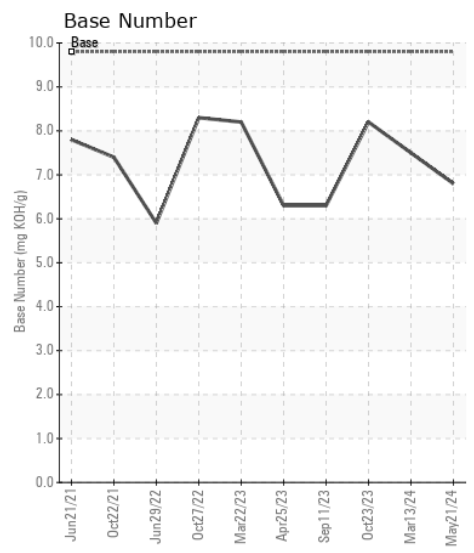
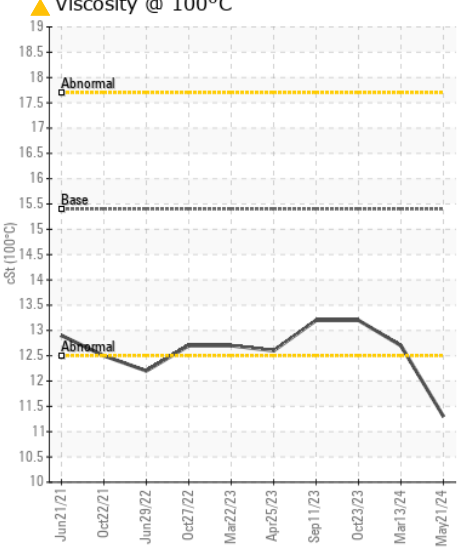
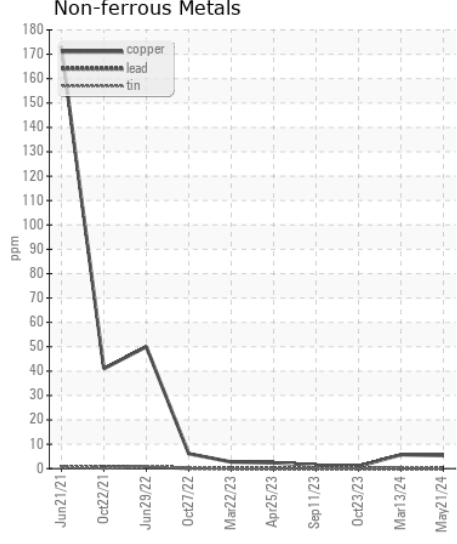
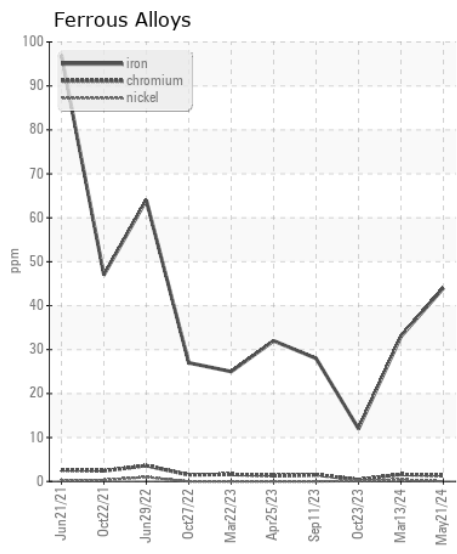
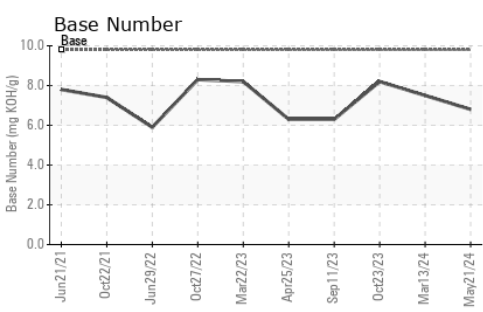
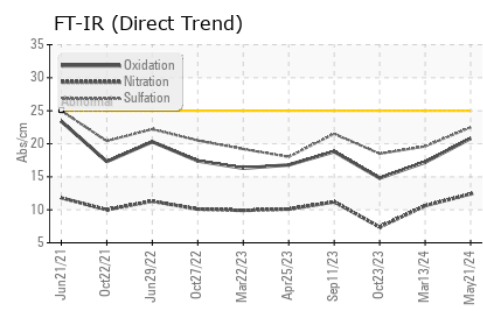
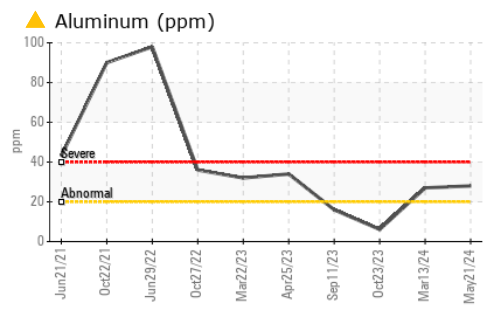
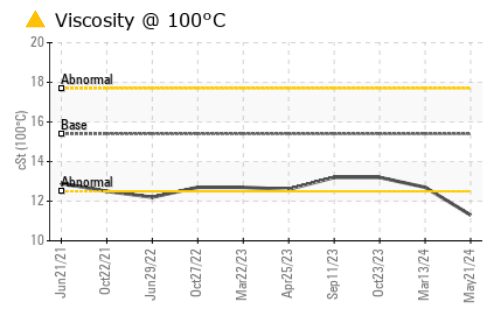
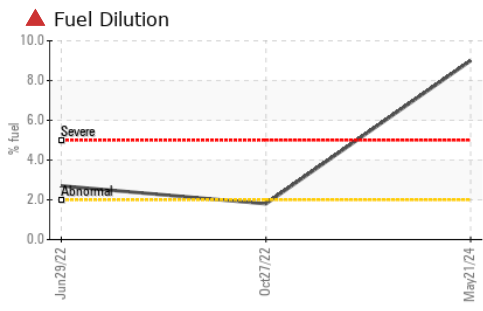
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>5</b>	6	3
Potassium	ppm	ASTM D5185m	>20	<b>17</b>	16	9
Fuel	%	ASTM D3524	>2.0	<b>▲ 9.0</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>	0.7	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>12.4</b>	10.6	7.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.5</b>	19.6	18.5
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**

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		<b>2</b>	3	0
Boron	ppm	ASTM D5185m	0	<b>4</b>	3	3
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	3
Molybdenum	ppm	ASTM D5185m	60	<b>58</b>	63	63
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	1010	<b>876</b>	979	900
Calcium	ppm	ASTM D5185m	1070	<b>1007</b>	1134	1075
Phosphorus	ppm	ASTM D5185m	1150	<b>962</b>	1148	973
Zinc	ppm	ASTM D5185m	1270	<b>1162</b>	1302	1214
Sulfur	ppm	ASTM D5185m	2060	<b>3011</b>	3481	3243
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.8</b>	17.2	14.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>6.8</b>	7.5	8.2
Visc @ 100°C	cSt	ASTM D445	15.4	<b>▲ 11.3</b>	12.7	13.2



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0116298 **Received** : 24 May 2024  
**Lab Number** : 06191622 **Tested** : 29 May 2024  
**Unique Number** : 11048374 **Diagnosed** : 29 May 2024 - Angela Borella  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )  
 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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