



Machine Id  
**1107M**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

**RECOMMENDATION**

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0100999</b>	GFL0092830	GFL0092787
Sample Date		Client Info		<b>17 May 2024</b>	21 Feb 2024	31 Oct 2023
Machine Age	hrs	Client Info		<b>12112</b>	12112	12112
Oil Age	hrs	Client Info		<b>12112</b>	12112	12112
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	Not Changd	N/A
Filter Changed		Client Info		<b>N/A</b>	Not Changd	N/A
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	<b>88</b>	30	44
Chromium	ppm	ASTM D5185m	>20	<b>11</b>	<1	5
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>30	<b>14</b>	4	4
Lead	ppm	ASTM D5185m	>30	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m	>30	<b>19</b>	2	17
Tin	ppm	ASTM D5185m	>15	<b>3</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**

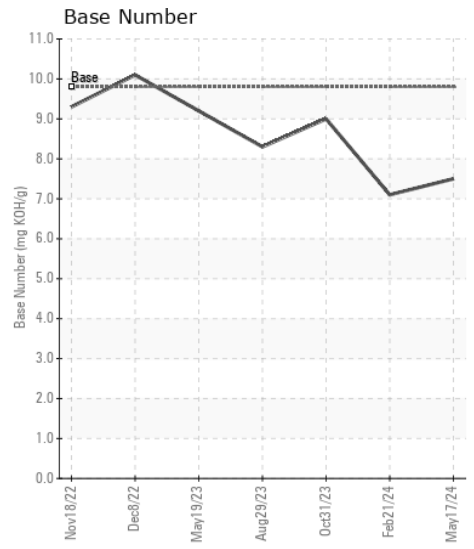
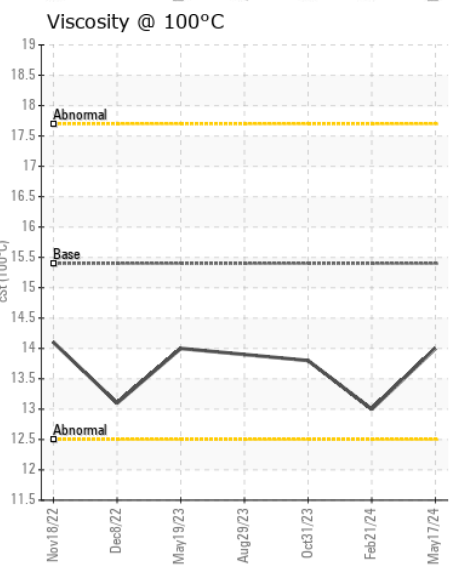
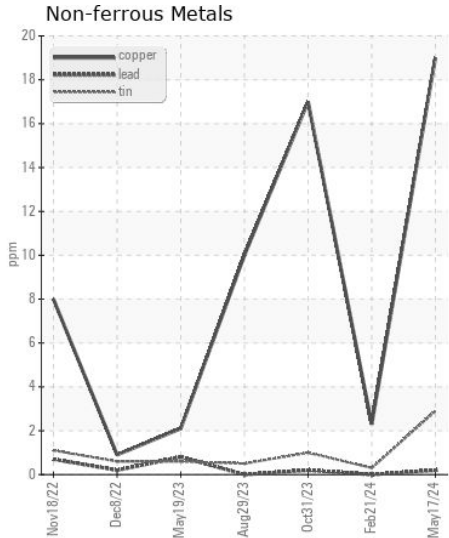
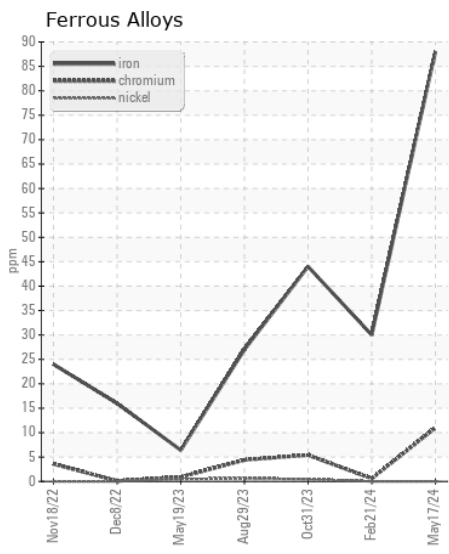
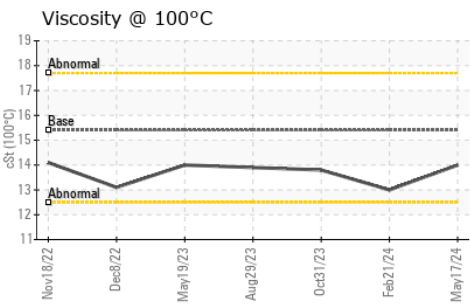
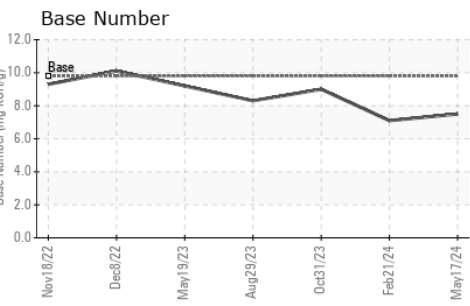
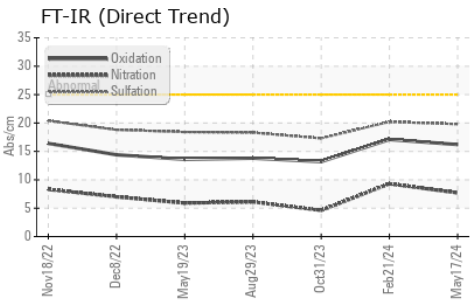
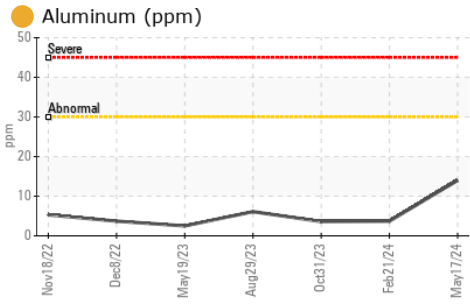
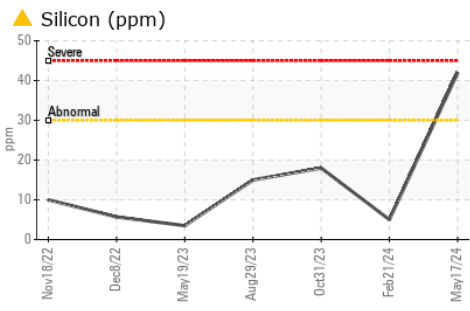
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>30	<b>42</b>	5	18
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	7	4
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		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.5</b>	0.5	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.7</b>	9.3	4.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.8</b>	20.2	17.3
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 condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<b>4</b>	6	0
Boron	ppm	ASTM D5185m	0	<b>4</b>	9	<1
Barium	ppm	ASTM D5185m	0	<b>0</b>	<1	4
Molybdenum	ppm	ASTM D5185m	60	<b>67</b>	66	63
Manganese	ppm	ASTM D5185m	0	<b>1</b>	1	<1
Magnesium	ppm	ASTM D5185m	1010	<b>974</b>	856	901
Calcium	ppm	ASTM D5185m	1070	<b>1113</b>	1061	1074
Phosphorus	ppm	ASTM D5185m	1150	<b>1002</b>	930	865
Zinc	ppm	ASTM D5185m	1270	<b>1278</b>	1100	1187
Sulfur	ppm	ASTM D5185m	2060	<b>2780</b>	2622	2785
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.2</b>	17.1	13.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>7.5</b>	7.1	9.0
Visc @ 100°C	cSt	ASTM D445	15.4	<b>14.0</b>	13.0	13.8



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0100999 **Received** : 23 May 2024  
**Lab Number** : 06188903 **Tested** : 24 May 2024  
**Unique Number** : 11045655 **Diagnosed** : 28 May 2024 - Don Baldrige  
**Test Package** : FLEET

**GFL Environmental - 455 - Flint**  
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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)